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Sulphur in Liquid Fuels

2010-2012

July 2015

Canada

Notice

The information contained in this report is compiled from data submitted, as of December 11, 2013, by the producers and importers of liquid fuels in Canada pursuant to the requirements of the federal *Fuels Information Regulations, No. 1*. When data gaps were presented, information was taken from data submitted pursuant to the *Sulphur in Diesel Fuel Regulations* and the *Sulphur in Gasoline Regulations*.

Submissions have been assessed for plausibility but may be subject to reporting errors.

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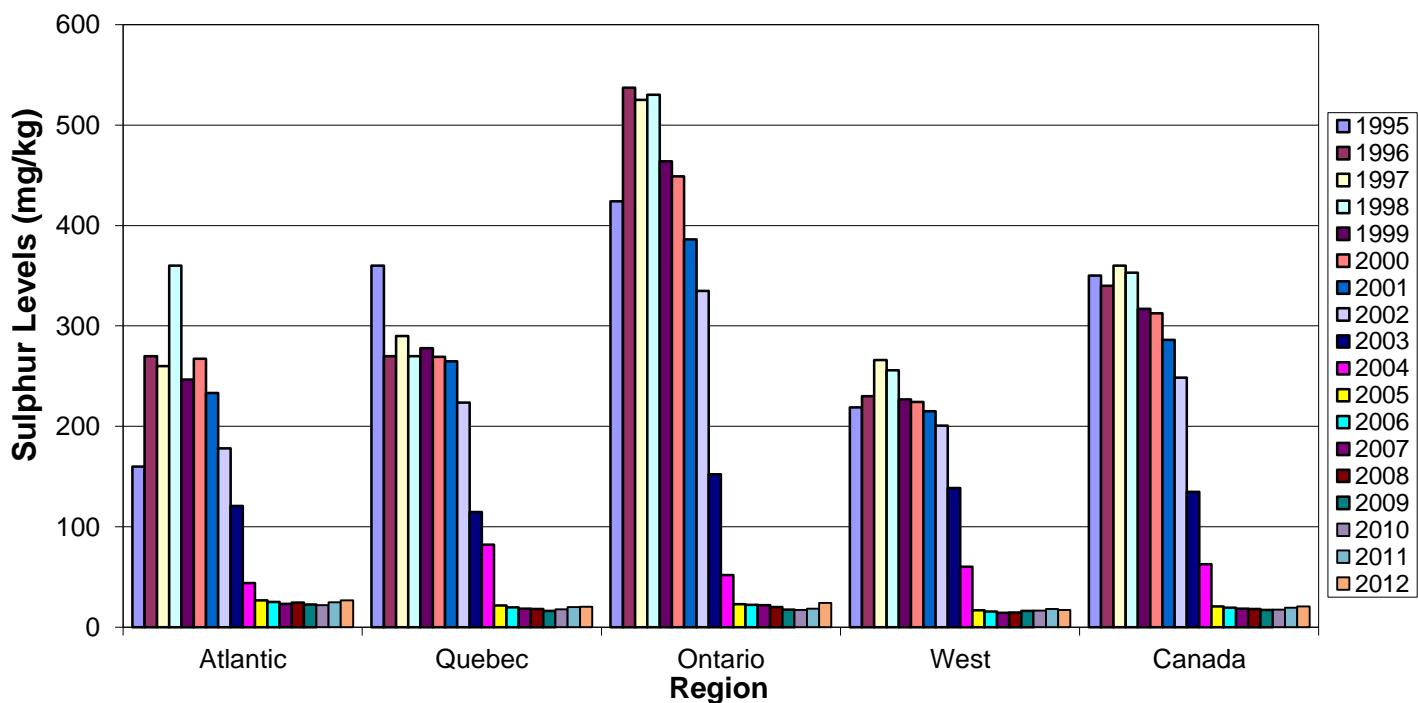
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1 Executive Summary

This report summarizes the data on the sulphur content in liquid fuels originating from crude oils, coal or bituminous sand for 2010-2012. The information was provided to Environment Canada by producers and importers of liquid fuels pursuant to the federal *Fuels Information Regulations, No. 1* of the *Canadian Environmental Protection Act, 1999*. When data gaps were presented, information was taken from data submitted pursuant to the *Sulphur in Diesel Fuel Regulations* and the *Sulphur in Gasoline Regulations*. As part of their enforcement activities, enforcement officers conduct inspections and investigations into alleged exceedances under the *Sulphur in Gasoline Regulations* and the *Sulphur in Diesel Fuel Regulations*, in accordance with the Compliance and Enforcement Policy for the *Canadian Environmental Protection Act, 1999*. All information reported and subsequent verifications indicate that there were no issues with the prescribed sulphur limits under the *Sulphur in Gasoline Regulations* and the *Sulphur in Diesel Fuel Regulations*.

In 2010, 2011 and 2012, the national average sulphur content in gasoline was determined to be 18 mg/kg, 20 mg/kg and 21 mg/kg respectively, indicating that the national average has slightly increased since 2009. Figure 1.1 shows the trend for sulphur content in gasoline nationally and by region for the period 1995 to 2012. Note that the term “West Region” used throughout this report is an unofficial designation for Manitoba, Saskatchewan, Alberta, British Columbia, Yukon, the Northwest Territories, and Nunavut.

Figure 1.1: Sulphur Levels in Gasoline by Region and Nationally, 1995-2012

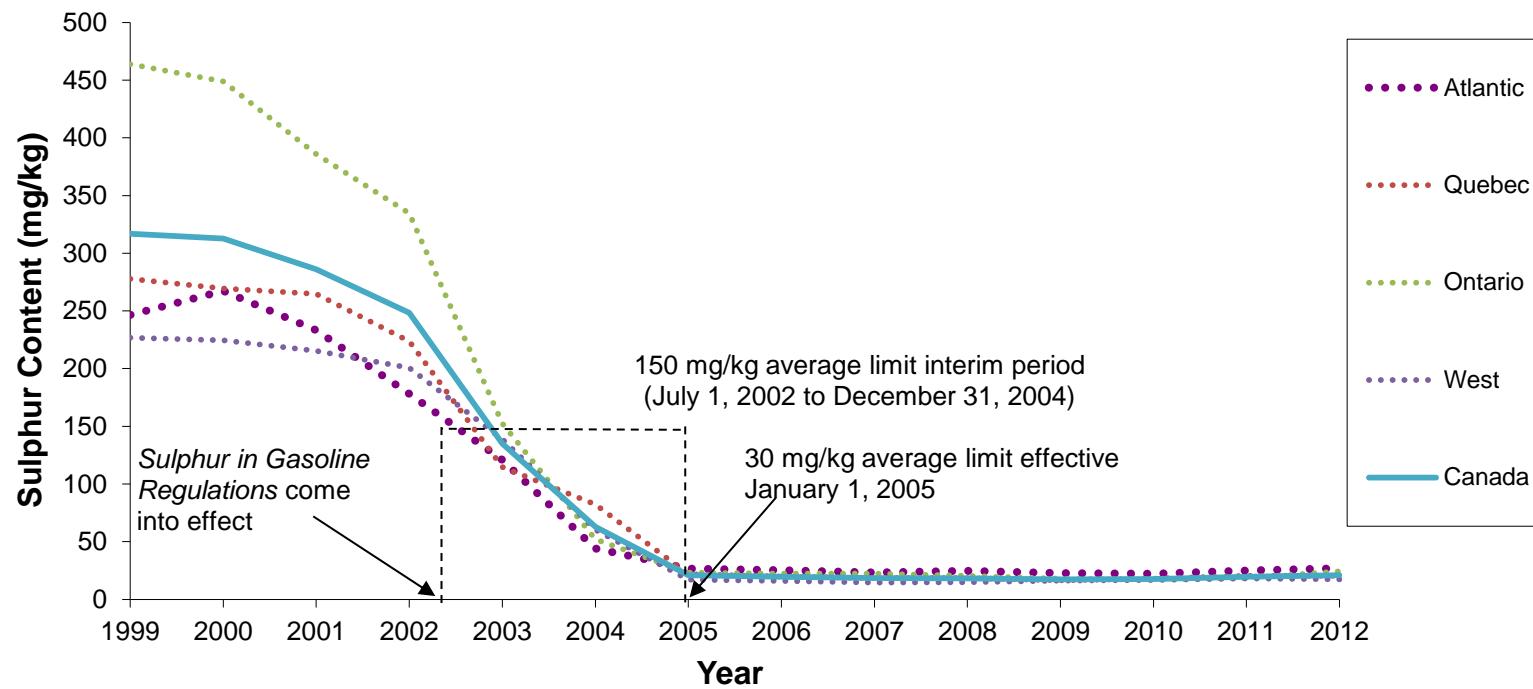


Notes:

- Includes motor and aviation gasoline for all years
- Includes any Blendstock for Oxygenate Blending (BOB) reported for the years 2003-2012.

The lower sulphur levels beginning in 2005 are a result of the *Sulphur in Gasoline Regulations*, which came into effect in 2002. The regulations set an average limit of 30 mg/kg commencing in 2005, with an interim average limit of 150 mg/kg for the period beginning on July 1, 2002, and ending on December 31, 2004. Figure 1.2 shows the trends in the levels of sulphur in gasoline from 1999 to 2012.

Figure 1.2: National and Regional Trends of Sulphur Content in Gasoline, 1999-2012



Notes:

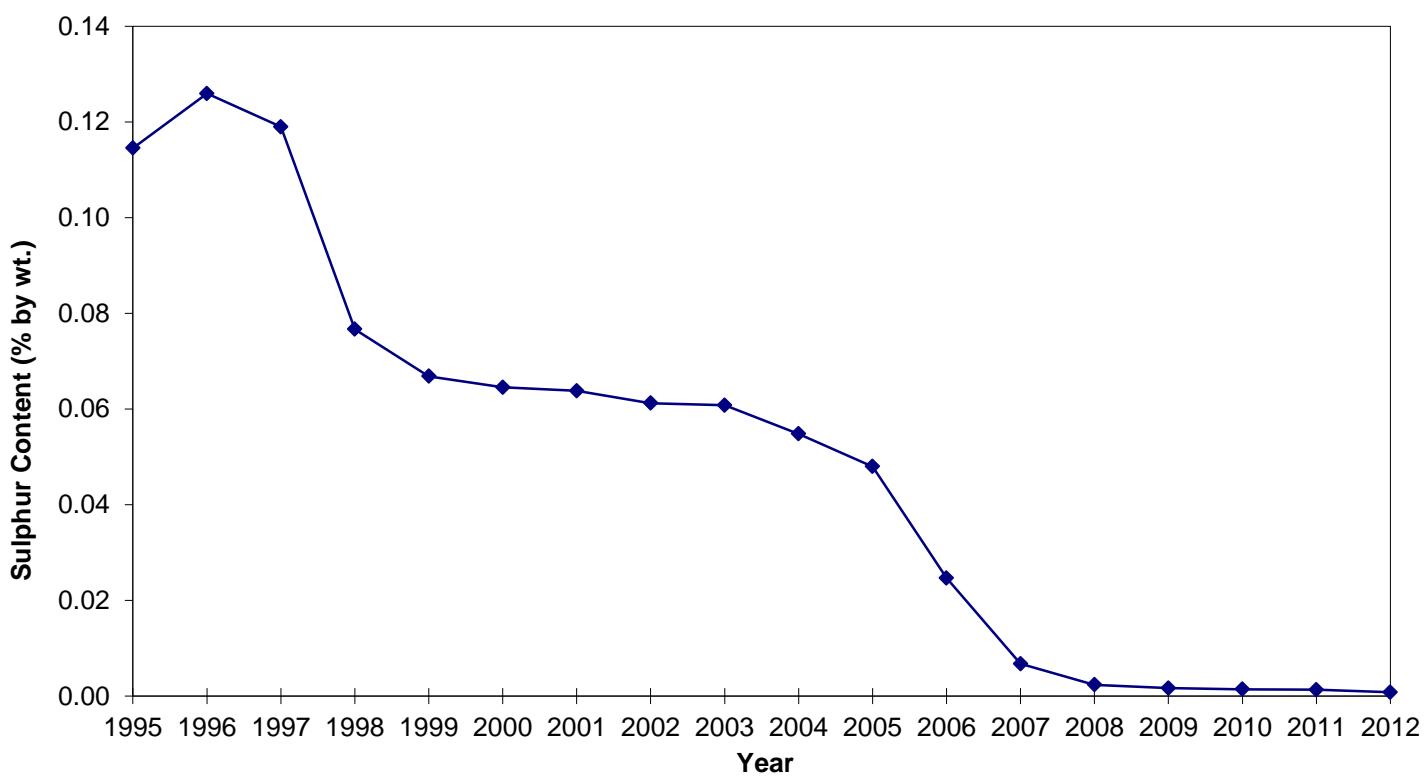
- Includes motor and aviation gasoline for all years
- Includes any Blendstock for Oxygenate Blending (BOB) reported for the years 2003-2012

In 2010, 2011 and 2012, the national average sulphur content in diesel fuel was determined to be 14 mg/kg, 13 mg/kg and 8 mg/kg respectively, indicating that the national average has decreased since 2009. Figure 1.3 shows the trend for sulphur content in diesel fuel nationally for the period 1995 to 2012.

The lower sulphur levels beginning in 1998 are a result of sulphur limits of 500 mg/kg in place for on-road diesel fuel under the now repealed *Diesel Fuel Regulations*. In 2006, the *Sulphur in Diesel Fuel Regulations* came into force setting new maximum limits for sulphur in diesel fuel according to its use. Limits were put in place for use on-road, off-road, in rail (locomotive), vessels, and stationary engines as follows:

- 15 mg/kg sulphur limit for on-road diesel in 2006;
- 500 mg/kg sulphur limit for off-road, rail and marine diesel fuel in 2007;
- 15 mg/kg sulphur limit for off-road diesel fuel in 2010; and
- 15 mg/kg sulphur limit for rail and marine in 2012.

Figure 1.3: National Trend of Sulphur Content in Diesel Fuel (Total Pool), 1995-2012



On July 4, 2012, the *Regulations Amending the Sulphur in Diesel Fuel Regulations* (referred to as the Amendments) were published in Canada Gazette, Part II. The Amendments introduce new categories and sulphur limits for diesel fuel produced, imported and sold for use in stationary engines and large (marine) vessels. Refer to Section 2, Table 2.1 for sulphur limits and effective dates.

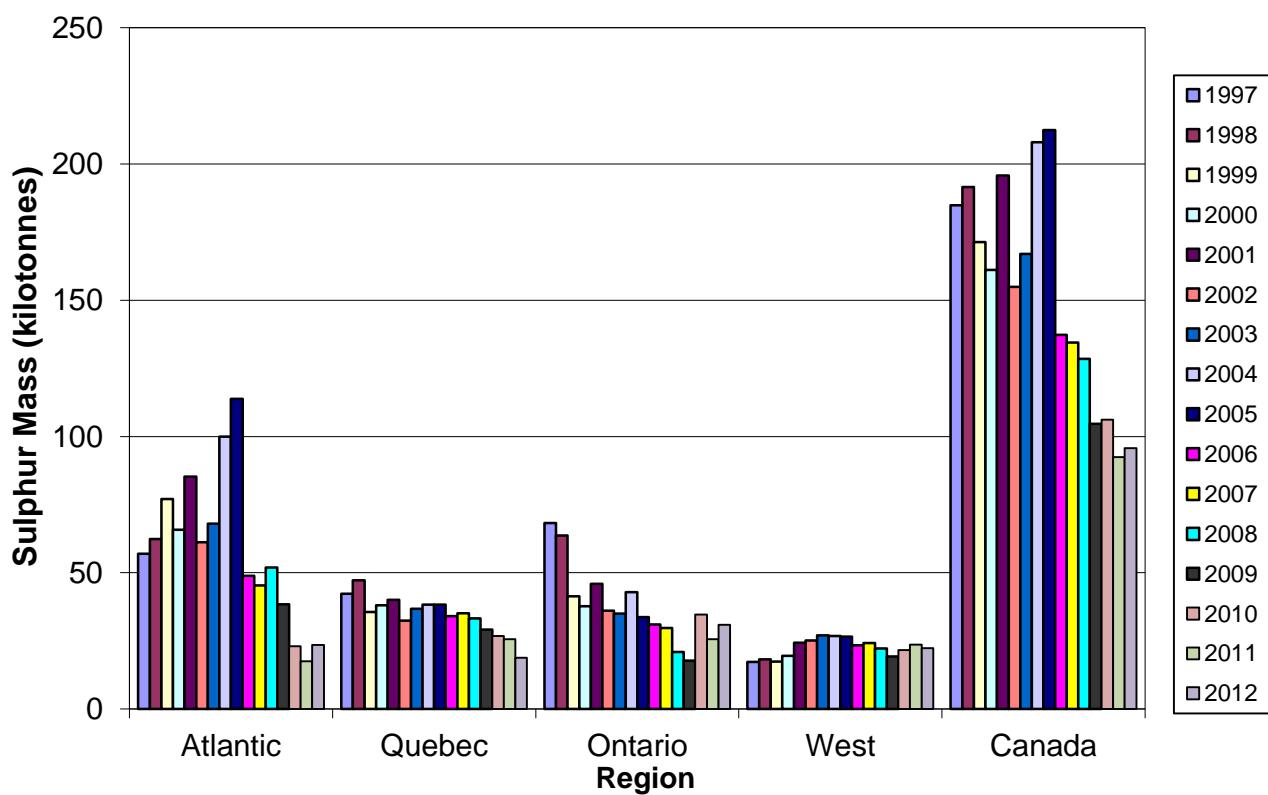
The Amendments allow large ships to obtain diesel fuel with a maximum sulphur content of 1,000 mg/kg, in order to align with Transport Canada regulations to implement a North American Emission Control Area (ECA) and international standards through the International Maritime Organization.

In 2010, the reported mass of sulphur content in all liquid fuels nationally increased by 2% from 2009 values, as shown in Figure 1.4. In the Atlantic and Quebec regions, the sulphur levels decreased by 40%, and 8% respectively, while levels in Ontario and the West increased by 95% and 12% respectively.

In 2011, the reported mass of sulphur content in all liquid fuels nationally decreased by 13% from 2010 values, as shown in Figure 1.4. In the Atlantic, Quebec and Ontario regions, the sulphur levels decreased by 24%, 5% and 26% respectively, while levels in the West increased by 9%.

In 2012, the reported mass of sulphur content in all liquid fuels nationally increased by 3% from 2011 values, as shown in Figure 1.4. In the Quebec and West regions, the sulphur levels decreased by 26% and 5% respectively, while levels in the Atlantic and Ontario regions increased by 34% and 20% respectively.

Figure 1.4: Sulphur Mass in Liquid Fuels by Region and Nationally, 1997-2012



Tables 1.1a, b and c show the national summary of data compiled from Form 1, Report on Sulphur Content, which fuel producers and importers are required to submit to Environment Canada under the *Fuels Information Regulations, No. 1*.

In 2010, the largest reported volume of liquid fuel produced or imported in Canada was motor gasoline, which constituted about 47% of all products by volume and accounted for about 0.5% of the sulphur mass in all liquid fuels. Heavy fuel oil constituted about 7% by volume of the total liquid fuels and contained about 85% of the total sulphur mass in Canada.

Table 1.1a: National Summary of Fuel Production/Imports and Sulphur Content for 2010

Type of Fuel	Fuel Production / Imports		Sulphur Mass	Average Sulphur Content	Distribution of Sulphur in Products
	(m ³)	(% of total)	(tonnes)	(mg/kg)	(%)
Aviation Turbo Fuel	6 653 666	7.67%	2 435	454	2.29%
Motor Gasoline	40 876 875	47.10%	532	18	0.50%
Aviation Gasoline	85 124	0.10%	0.3	5	0.00%
Kerosene/Stove oil	793 921	0.91%	41	62	0.04%
Ultra-Low Sulphur Diesel	27 939 750	32.19%	115	5	0.11%
Low-Sulphur Diesel Fuel	1 072 096	1.24%	220	242	0.21%
High-Sulphur Diesel Fuel	18 261	0.02%	19	1 243	0.02%
Light Fuel Oil	2 042 763	2.35%	1 382	789	1.30%
Heavy Fuel Oil	5 786 244	6.67%	89 866	15 686	84.64%
Plant Consumption/Other	1 517 285	1.75%	11 567	7 771	10.89%
TOTAL	86 786 796	100.00%¹	106 178	-	100.00%

Notes: In the Type of Fuel category, "Plant Consumption" and "Other" were combined for 2010. Fuels reported under these categories included pitch, intermediate fuel oils, marine bunker, heavy fuel oil, kerosene, plant fuel oil, diesel fuels and unspecified fuels.

¹Totals may not add up due to rounding.

In 2011, the largest reported volume of liquid fuel produced in or imported into Canada was motor gasoline, which constituted about 46% of all products by volume and accounted for about 0.6% of the sulphur mass in all liquid fuels. Heavy fuel oil constituted about 6% by volume of the total liquid fuels and contained about 85% of the total sulphur mass in Canada.

Table 1.1b: National Summary of Fuel Production/Imports and Sulphur Content for 2011

Type of Fuel	Fuel Production / Imports		Sulphur Mass	Average Sulphur Content	Distribution of Sulphur in Products
	(m ³)	(% of total)	(tonnes)	(mg/kg)	(%)
Aviation Turbo Fuel	6 451 195	7.59%	2 896	559	3.13%
Motor Gasoline	39 279 534	46.19%	563	20	0.61%
Aviation Gasoline	71 811	0.08%	0.4	8	0.00%
Kerosene/Stove oil	765 155	0.90%	15	24	0.02%
Ultra-Low Sulphur Diesel	29 198 819	34.33%	139	6	0.15%
Low-Sulphur Diesel Fuel	1 005 661	1.18%	195	227	0.21%
High-Sulphur Diesel Fuel	N/A ¹	N/A	N/A	538	N/A
Light Fuel Oil	1 644 099	1.93%	1 383	988	1.50%
Heavy Fuel Oil	5 311 021	6.24%	76 942	14 585	83.23%
Plant Consumption/Other	1 317 171	1.55%	10 313	7 912	11.16%
TOTAL	85 044 464²	100.00%³	92 446	-	100.00%

Notes: In the Type of Fuel category, "Plant Consumption" and "Other" were combined for 2011. Fuels reported under these categories included pitch, intermediate fuel oils, marine bunker, heavy fuel oil, diesel fuels and unspecified liquid fuels

¹When less than three companies are reporting, the volume is not included to protect confidential information.

²Total volume excludes the volume not included, as per 1 above.

³Totals may not add up due to rounding.

In 2012, the largest reported volume of liquid fuel produced in or imported into Canada was motor gasoline, which constituted about 46% of all products by volume and accounted for about 0.6% of the sulphur mass in all liquid fuels. Heavy fuel oil constituted about 7% by volume of the total liquid fuels and contained about 83% of the total sulphur mass in Canada.

Table 1.1c: National Summary of Fuel Production/Imports and Sulphur Content for 2012

Type of Fuel	Fuel Production / Imports		Sulphur Mass	Average Sulphur Content	Distribution of Sulphur in Products
	(m ³)	(% of total)	(tonnes)	(mg/kg)	(%)
Aviation Turbo Fuel	6 298 331	7.50%	2 738	539	2.86%
Motor Gasoline	38 829 365	46.22%	594	21	0.62%
Aviation Gasoline	62 733	0.07%	0.2	4	0.00%
Kerosene/Stove oil	58 770	0.07%	13	276	0.01%
Ultra-Low Sulphur Diesel	28 972 349	34.49%	133	5	0.14%
Low-Sulphur Diesel Fuel	268 641	0.32%	56	248	0.06%
High-Sulphur Diesel Fuel	N/A ¹	N/A	N/A	1 384	N/A
Light Fuel Oil	1 617 422	1.93%	997	730	1.04%
Heavy Fuel Oil	6 283 465	7.48%	79 223	12 657	82.81%
Plant Consumption/Other	1 622 822	1.93%	11 915	8 080	12.45%
TOTAL	84 013 897²	100.00%³	95 669	-	100.00%

Notes: In the Type of Fuel category, “Plant Consumption” and “Other” were combined for 2012. Fuels reported under these categories included pitch, intermediate fuel oils, marine bunker, heavy fuel oil, furnace fuel oil, diesel fuels and unspecified liquid fuels.

¹When less than three companies are reporting, the volume is not included to protect confidential information.

²Total volume excludes the volume not included, as per 1 above.

³Totals may not add up due to rounding.

2 Introduction

2.1 Fuels Information Regulations, No. 1

The *Fuels Information Regulations, No. 1* (see Appendix B) were adopted in 1977 to provide Environment Canada with information on liquid fuel composition in order to estimate sulphur dioxide (SO_2) emissions from combustion. The Regulations require annual reporting on sulphur levels in fuels and one-time reporting of information on non-lead fuel additives (additional reporting is required when there are changes). The regulations apply to all fuels¹ in liquid form that originate from crude oils, coal or bituminous sands.

The Regulations require all producers in Canada and all importers into Canada of more than 400 cubic metres (m^3) of fuels within a calendar year to report the volume of fuels produced and imported, the fuel density, and the fuel sulphur content for each quarter of the calendar year, for each fuel type produced and imported (see Appendix B). Environment Canada uses the reported values to estimate the mass of sulphur in Canadian fuels. The Regulations also require all producers and importers who supply more than 400 m^3 of a fuel to report information on the additives other than lead or lead compounds in the fuels they produce and import.

The full text of the *Fuels Information Regulations, No. 1* and reporting forms are available at:

www.ec.gc.ca/energie-energy/default.asp?lang=En&n=3A2A9F94-1

2.2 Regulations and Other Measures to Address Sulphur Levels in Fuels

2.2.1 Sulphur in Gasoline Regulations

On June 23, 1999, the federal government passed regulations limiting the amount of sulphur in gasoline. The *Sulphur in Gasoline Regulations* limit the sulphur content in gasoline to 40 mg/kg. The regulations also allow an annual average option of 30 mg/kg with a maximum of 80 mg/kg as of January 1, 2005. The average sulphur content of gasoline was limited to 150 mg/kg during an interim period from July 1, 2002, to December 31, 2004.

On September 27, 2014, Environment Canada published proposed *Regulations Amending the Sulphur in Gasoline Regulations*, in alignment with U.S. “Tier 3” fuel standards. Environment Canada is committed to continue working closely with the U.S. Environmental Protection Agency to maintain a common Canada-United States approach to regulating air pollutant emissions from 2017 and later model year vehicles and to ensure that sulphur in content of Canadian gasoline continues to be in line with U.S. levels.

¹ Throughout this document, the word “fuel(s)” applies only to those fuels which are in liquid form and petroleum-based.

The proposed *Regulations Amending the Sulphur in Gasoline Regulations* were published in the *Canada Gazette*, Part I on September 27, 2014 and are available for reference at: <http://www.gazette.gc.ca/rp-pr/p1/2014/2014-09-27/html/reg2-eng.php>.

The full text of the *Sulphur in Gasoline Regulations* along with the associated regulatory impact analysis statements and reporting forms are available at:
www.ec.gc.ca/energie-energy/default.asp?lang=En&n=BEA13229-1.

2.2.2 Sulphur in Diesel Fuel Regulations

The federal *Sulphur in Diesel Fuel Regulations* set maximum limits for sulphur in diesel fuel used in on-road, off-road, rail (locomotive), vessels and stationary diesel engines. These limits also apply to diesel that is biomass-based and blends of biomass-based diesel fuel and petroleum diesel fuel.

The *Regulations Amending the Sulphur in Diesel Fuel Regulations* (referred to as the Amendments) were published in *Canada Gazette*, Part II on July 4, 2012.

The Amendments introduced new categories and sulphur limits for diesel fuel produced, imported and sold for use in stationary engines and large vessels. More specifically, there are two new fuel categories for diesel fuel for use in vessels, one for large vessels and another for non-large vessels. The Amendments allow large ships to obtain diesel fuel with a maximum sulphur content of 1,000 mg/kg, in order to align with regulations to implement the North American Emission Control Area (ECA) and international standards. Furthermore, the Amendments align sulphur limits for diesel fuel produced, imported and sold for use in stationary engines with those of the U.S. Environmental Protection Agency. The production, import and sales limits, and their effective dates of the regulations are summarized in Table 2.1.

Table 2.1: Limits on Sulphur in Diesel Fuel and Effective Dates

Diesel fuel for use in:	Regulated Activity	Sulphur Limit (mg/kg)	Effective Date
Large Vessels (Marine Diesel)	Production, import or sales	1000	June 1, 2014
Large Stationary Engines	Production, import or sales	1000	June 1, 2014
Non-large Vessels	Production or import	15	June 1, 2012
Non-large Vessels	Sales	15	June 1, 2014
Non-large Vessels	Sales	500	October 1, 2007
Small Stationary Engines	Production, import or sales	15	June 1, 2014
Rail (locomotive)	Production or import	15	June 1, 2012
Rail (locomotive)	Sales	500	October 1, 2007
Off-road Engines	Production, import or sales	15	Since 2010
On-road Vehicles	Production, import or sales	15	Since 2006

The full text of the *Sulphur in Diesel Fuel Regulations* including amendments, along with the associated regulatory impact analysis statement and reporting forms, are available at:

www.ec.gc.ca/energie-energy/default.asp?lang=En&n=7A8F92ED-1

2.2.3 Canadian General Standards Board

The Canadian General Standards Board (CGSB) sets voluntary commercial standards for fuels to ensure the fuel's suitability for a particular purpose. Some of these standards been adopted by provincial regulations. The standards for sulphur in fuels vary considerably among the various fuels (see Appendix D). CGSB standards are revised periodically to reflect developments in product, usage and manufacturing technology along with federal and provincial regulations.

2.3 Period Covered

This report covers the period from January 1, 2010, to December 31, 2012.

Under the *Fuels Information Regulations, No. 1*, producers and importers of over 400 m³ of fuel(s) are required to submit information, for each quarter of the calendar year, to Environment Canada on or before January 31 of the following year.

Under the *Sulphur in Diesel Fuel Regulations*, every person who produces or imports diesel fuel is required to submit information on the level of sulphur in diesel with sulphur concentrations

- less than or equal to 15 mg/kg;
- greater than 15 mg/kg but less than or equal to 1 000 mg/kg; and
- greater than 1 000 mg/kg.

Until December 31, 2012, this information was provided for each calendar quarter during which diesel fuel was produced or imported, within 45 days after the end of that quarter. Since December 31, 2012, this information is provided on an annual basis for each calendar year during which diesel fuel is produced or imported, within 45 days after the end of that calendar year.

The *Sulphur in Gasoline Regulations* require annual reporting on the level of sulphur in gasoline. Failure to submit the data on time, incomplete data or unsigned forms are offences under the *Canadian Environmental Protection Act, 1999*.

2.4 Compliance with the Regulations

All information reported and subsequent verifications indicate that there were no issues with the prescribed sulphur limits under the *Sulphur in Gasoline Regulations* and the *Sulphur in Diesel Fuel Regulations*.

As part of their enforcement activities, enforcement officers conduct inspections and investigations into alleged exceedances under the *Sulphur in Gasoline Regulations* and the *Sulphur in Diesel Fuel Regulations*, in accordance with the Compliance and Enforcement Policy for the *Canadian Environmental Protection Act, 1999*, available on Environment Canada's website at <http://www.ec.gc.ca/lcpe-cepa>.

2.5 Reporting Petroleum Refineries and Importing Companies

Tables 2.2a, b and c list the petroleum refineries, blenders, biomass-based diesel fuel producers and upgrading plants that reported, under the three regulations, information pertaining to production volume and fuel sulphur content for 2010, 2011 and 2012.

Tables 2.3a, b and c identify importers that reported, under the three regulations, information pertaining to import volumes and fuel sulphur contents for 2010-2012 for each importation point or province for the *Sulphur in Gasoline Regulations* and for the *Sulphur in Diesel Fuel Regulations* per company. Note that for the *Fuels Information Regulations, No. 1*, separate reports for each import facility or province are not required. The province noted in Tables 2.3a, b and c was determined using the province of import indicated in the reports received, when provided. If the province of import was not indicated, the importer's place of business was used.

Table 2.2a: Refineries, Blenders, Biomass-based Diesel Fuel Producers and Upgraders Reporting under the Respective Fuels Regulations in 2010

Company	Province	FIR ¹	Gasoline ²	Diesel ³
Canadian International Grains Institute	MB	N/A	N/A	X
Chevron Burnaby Refinery	BC	X	X	X
CCRL	SK	X	X	X
City Farm Biofuel	BC	NP4	N/A	X
Eastman Biofuels Limited	MB	N/A	N/A	X
Husky Oil – Lloydminster Upgrader	SK	X	N/A	X
Husky Oil – Prince George	BC	X	X	X
IOL - Dartmouth	NS	X	X	X
IOL - Edmonton	AB	X	X	X
IOL - Nanticoke	ON	X	X	X
IOL - Sarnia	ON	X	X	X
Irving Oil	NB	X	X	X
Milligan Bio Tech Incorporated	SK	N/A	N/A	X
Newalta	BC	X	N/A	N/A
North Atlantic	NL	X	X	X
NOVA Chemicals	ON	X	N/A	X
Ocean Nutrition Canada	NS	N/A	N/A	X
Olds College	AB	N/A	N/A	X
Petro-Canada Lubricants	ON	X	N/A	X
Refuel Bioproducts Corporation	AB	N/A	N/A	NP
Rothsay	ON	N/A	N/A	X
SAIT Polytechnic	AB	N/A	N/A	X
SCL - Corunna	ON	X	X	X
SCL - Fort Saskatchewan	AB	X	X	X
SCL - Montréal	QC	X	X	X
SEI – Edmonton	AB	X	X	X
SEI - Fort McMurray	AB	X	N/A	X
SEI - Montréal	QC	X	X	X
SEI – Port Moody	BC	X	N/A	X
SEPP - Sarnia	ON	X	N/A	X
Speedway International Incorporated	MB	N/A	N/A	X
Syncrude	AB	X	N/A	X
Ultramar Limitée – St. Romuald	QC	X	N/A	X

X = Report received; NP = No Production Reported;

NP4 = No production reported under Section 4 of the *Fuels Information Regulations, No. 1*;

N/A = Not Applicable

CCRL = Consumer's Co-operative Refineries Limited; IOL = Imperial Oil Limited; SAIT = Southern Alberta Institute of Technology; SCL = Shell Canada Limited; SEI = Suncor Energy Incorporated;

SEPP = Suncor Energy Products Partnership

¹ *Fuels Information Regulations, No. 1*.

² *Sulphur in Gasoline Regulations*.

³ *Sulphur in Diesel Fuel Regulations*.

Table 2.2b: Refineries, Blenders, Biomass-based Diesel Fuel Producers and Upgraders Reporting under the Respective Fuels Regulations in 2011

Company	Province	FIR ¹	Gasoline ²	Diesel ³
Canadian International Grains Institute	MB	N/A	N/A	X
CCRL	SK	X	X	X
Chevron Burnaby Refinery	BC	X	X	X
Eastman Biofuels Limited	MB	N/A	N/A	X
Husky Oil – Lloydminster Upgrader	SK	X	N/A	X
Husky Oil – Prince George	BC	X	X	X
IOL - Dartmouth	NS	X	X	X
IOL - Edmonton	AB	X	X	X
IOL - Nanticoke	ON	X	X	X
IOL - Sarnia	ON	X	X	X
Irving Oil	NB	X	X	X
Milligan Bio Tech Incorporated	SK	N/A	N/A	X
Newalta	BC	X	N/A	N/A
North Atlantic	NL	X	X	X
NOVA Chemicals	ON	X	N/A	NP
Ocean Nutrition Canada	NS	N/A	N/A	X
Olds College	AB	N/A	N/A	X
Petro-Canada Lubricants	ON	X	N/A	X
Rothsay	ON	N/A	N/A	X
SAIT Polytechnic	AB	N/A	N/A	X
SCL - Corunna	ON	X	X	X
SCL - Fort Saskatchewan	AB	X	X	X
SEI – Edmonton	AB	X	X	X
SEI - Fort McMurray	AB	X	N/A	X
SEI - Montréal	QC	X	X	X
SEI – Port Moody	BC	X	NP	X
SEPP - Sarnia	ON	X	X	X
Speedway International Incorporated	MB	N/A	N/A	X
Syncrude	AB	X	N/A	X
Ultramar Limitée – St. Romuald	QC	X	X	X

X = Report received; NP = No Production Reported;

N/A = Not Applicable

CCRL = Consumer's Co-operative Refineries Limited; IOL = Imperial Oil Limited; SAIT = Southern Alberta Institute of Technology; SCL = Shell Canada Limited; SEI = Suncor Energy Incorporated;

SEPP = Suncor Energy Products Partnership

¹ Fuels Information Regulations, No. 1.

² Sulphur in Gasoline Regulations.

³ Sulphur in Diesel Fuel Regulations.

Table 2.2c: Refineries, Blenders, Biomass-based Diesel Fuel Producers and Upgraders Reporting under the Respective Fuels Regulations in 2012

Company	Province	FIR ¹	Gasoline ²	Diesel ³
BiFrost Bio-Blends Limited	MB	N/A	N/A	NP
Biox Canada Limited	ON	N/A	N/A	X
Canadian International Grain Institute	MB	N/A	N/A	NP
CCRL	SK	X	X	X
Chevron Burnaby Refinery	BC	X	X	X
Eastman Biofuels Limited	MB	N/A	N/A	NP
Husky Oil – Lloydminster Upgrader	SK	X	N/A	X
Husky Oil – Prince George	BC	X	X	X
IOL - Dartmouth	NS	X	X	X
IOL - Edmonton	AB	X	X	X
IOL - Nanticoke	ON	X	X	X
IOL - Sarnia	ON	X	X	X
Irving Oil	NB	X	X	X
Milligan Bio Tech Incorporated	SK	N/A	N/A	X
Newalta	BC	X	N/A	N/A
North Atlantic	NL	X	X	X
NOVA Chemicals	ON	X	N/A	NP
Ocean Nutrition Canada	NS	N/A	N/A	X
Olds College – Biofuel Technology Centre	AB	N/A	N/A	NP
Petro-Canada Lubricants	ON	X	N/A	X
Rothsay	ON	N/A	N/A	X
SAIT Polytechnic	AB	N/A	N/A	X
SCL - Corunna	ON	X	X	X
SCL - Fort Saskatchewan	AB	X	X	X
SEI – Edmonton	AB	X	X	X
SEI - Fort McMurray	AB	X	N/A	X
SEI - Montréal	QC	X	X	X
SEPP - Sarnia	ON	X	X	X
Speedway International	MB	N/A	N/A	X
Syncrude	AB	X	N/A	X
Ultramar Limitée– St. Romuald	QC	X	X	X

X = Report received; NP = No Production Reported;

N/A = Not Applicable

CCRL = Consumer's Co-operative Refineries Limited; IOL = Imperial Oil Limited; SAIT = Southern Alberta Institute of Technology; SCL = Shell Canada Limited; SEI = Suncor Energy Incorporated;

SEPP = Suncor Energy Products Partnership

¹ Fuels Information Regulations, No. 1.

² Sulphur in Gasoline Regulations.

³ Sulphur in Diesel Fuel Regulations.

Table 2.3a: Importers Reporting Under the Respective Fuels Regulations in 2010

Company	Province/ State	FIR ¹	Gasoline ²	Diesel ³
AFD Petroleum Limited	AB	X	N/A	X
Air Canada – Westridge	BC	X	N/A	N/A
Air Canada – QC Imports	QC	NI	N/A	N/A
Archer Daniels Midland	SK, MB, ON	N/A	N/A	X
Astra Energy Canada Incorporated – ON Imports	ON	NI4	N/A	X
Astra Energy Canada Incorporated – MB Imports	MB	NI4	N/A	X
Astra Energy Canada Incorporated – SK Imports	SK	NI4	N/A	X
Biox Canada Limited	ON	N/A	N/A	X
Birchwood Trading Incorporated	Minnesota	X	N/A	N/A
CCRL	SK	X	N/A	X
Cervici Farms Incorporated	ON	NI	N/A	N/A
CFS Alert	NU	X	N/A	X
Chevron Burnaby Refinery	BC	X	N/A	X
City Farm Biofuel	BC	NI4	N/A	X
Cliffs Natural Resources – Mines Wabush	QC	X	N/A	N/A
CN Railway – CN Thorton Yard	BC	X	N/A	X
Coco Paving Incorporated	ON	NI	N/A	NI
CP Railway – AB Imports	AB		N/A	X
CP Railway – ON Imports	ON		N/A	X
CP Railway – SK Imports	SK		N/A	X
G&B Fuels Incorporated	AB	NI	NI	NI
General Motors of Canada Limited	ON	N/A	N/A	X
Great Lakes Greenhouses Incorporated	ON	X	N/A	N/A
Honda of Canada Manufacturing	ON	N/A	X	N/A
Husky Oil Marketing Company	ON	NI	N/A	NI
IOL - Burnaby	BC	X	X	X
IOL - Dartmouth	NS	NI	X	NI
IOL - Nanticoke	ON	NI	X	NI
IOL – Point Tupper NS	NS	X	X	N/A
IOL – SEI Montreal	QC	X	X	N/A
IOL – Sept Isles	QC	X	N/A	X
Irving Oil	NB	X	X	NI
Irving Oil – Canadian Importers	various	X	X	NI
Kildair Service Limitée	QC	X	N/A	N/A
Larry Penner – Winnipeg	MB	X	X	NI
Marine Petrobulk	BC	X	N/A	NI
MSCG - Montreal	QC	X	N/A	X
MSCG - Quebec	QC	X	N/A	
Nanaimo Forest Products – Harmac	BC	X	N/A	N/A
Neucel Specialty Cellulose	BC	X	N/A	N/A
New Brunswick Power	NB	X	N/A	N/A
Newfoundland and Labrador Hydro – Holyrood	NL	X	N/A	N/A

Company	Province/ State	FIR ¹	Gasoline ²	Diesel ³
North 60 Petro	YT	X	N/A	X
North Atlantic	NL	X	X	X
Northland Biodiesel Marketing Incorporated	ON	N/A	N/A	X
Nova Scotia Power Incorporated	NS	X	N/A	N/A
PaceSetter Enterprises	YT	X	N/A	X
Parkland – Yukon	YT	X	N/A	X
Pétroles Norcan – Norcan Terminal	QC	X	X	X
Sanimax Energy	ON	N/A	N/A	X
SCL – BC Imports	BC	X	X	N/A
SCL – Montreal	QC	X	X	NI
SCL – ON Imports	ON	NI	NI	NI
SCL – QC Imports	QC	X	X	N/A
STC – BC Imports	BC	X	X	X
STC – ON Imports	ON	X	X	N/A
STC – QC Imports	QC	X	X	X
SEI – Montreal	QC	X	X	X
SEI – Oakville	ON	NI	NI	NI
SEI – Port Moody	BC	X	X	X
SEI – Thunder Bay, Ottawa	ON	N/A	N/A	NI
Tolko – Manitoba	MB	X	N/A	N/A
Tombstone Energy Solutions Limited	BC	N/A	N/A	X
TCGP – Chevron Refinery and SEI Burrard Terminal	BC	X	N/A	X
TCGP – Horizon Marine and Newmont Mining	NT and NU	X	N/A	X
TCGP – Kinder Morgan Vancouver Wharves	BC	X	N/A	X
Twin Rivers Paper Company – Edmundston	NB	X	N/A	N/A
Ultramar Limitée – Montreal	QC	X	N/A	N/A
Ultramar Limitée – St. Romuald	QC	X	N/A	N/A
West Coast Reduction Limited	BC	NI4	N/A	X
Western Biodiesel Incorporated	AB	NI4	N/A	X
WPC – BC	BC	X	N/A	N/A
WPC - Manitoba	MB	X	X	X
WPC - Ontario	ON	X	X	NI
WPC - Saskatchewan	SK	X	X	X

X = Report received; NI = No Imports Reported;

NI4 = No imports reported under Section 4 of the *Fuels Information Regulations, No. 1*;

N/A = Not Applicable

CCRL = Consumer's Co-operative Refineries Limited; CFS = Canadian Forces Station; CN = Canadian National; CP = Canadian Pacific; IOL = Imperial Oil Limited; MSCG = Morgan Stanley Capital Group;

SCL = Shell Canada Limited; STC = Shell Trading Canada; SEI = Suncor Energy Incorporated;

TCGP = Trafigura Canada General Partnership; WPC = Western Petroleum Company

¹ *Fuels Information Regulations, No. 1.*

² *Sulphur in Gasoline Regulations.*

³ *Sulphur in Diesel Fuel Regulations.*

Table 2.3b: Importers Reporting Under the Respective Fuels Regulations in 2011

Company	Province/ State	FIR ¹	Gasoline ²	Diesel ³
1796640 Ontario Ltd (Canadian Operators Petroleum)	ON	N/A	N/A	X
AFD Petroleum Limited	AB	X	N/A	X
Air Canada - Westridge	BC	X	N/A	N/A
Archer Daniels Midland	SK, MB	N/A	N/A	X
Astra Energy Canada Incorporated – SK Imports	SK	N/A	N/A	X
Astra Energy Canada Incorporated – MB Imports	MB	N/A	N/A	X
Bifrost Bio-Blend Limited	MB	N/A	N/A	X
Biox Canada Limited	ON	N/A	N/A	X
Birchwood Trading Incorporated	Minnesota	X	N/A	N/A
CCRL	SK	X	NI	X
Cervini Farms	ON	NI	N/A	N/A
CFS Alert	NU	X	N/A	X
Chevron Burnaby Refinery	BC	X	N/A	X
City Farm Biofuel	BC	N/A	N/A	X
City Service Valcon LLC	AB, BC	X	N/A	X
Cliffs Natural Resources – Mines Wabush	QC	X	N/A	N/A
CN Railway CN Symington LRC	MB	X	N/A	X
CN Railway CN Thorton Yard	BC	X	N/A	X
Coco Paving Incorporated	ON	NI	N/A	NI
CP Railway – SK Imports	SK	X	N/A	X
Elbow River – Vopak Terminals	QC	X	N/A	N/A
ERS Inc.	YT	X	N/A	X
ERS Inc. – Edmonton	AB	X	N/A	X
G&B Fuels Inc	AB	NI	NI	N/A
General Motors of Canada Ltd	ON	N/A	N/A	X
Great Lakes Greenhouses Inc.	ON	X	N/A	N/A
Husky Oil Marketing Company	ON	NI	N/A	NI
IOL – Burnaby	BC	X	N/A	X
IOL – Charlottetown	NS	X	X	NI
IOL – Dartmouth	NS	X	X	NI
IOL – Eastern Passage	NS	X	N/A	X
IOL – Nanticoke	ON	X	X	NI
IOL – Ontario Imports	ON	X	X	NI
IOL - Point Tupper NS	NS	X	X	NI
IOL – Sarnia	ON	N/A	X	X
IOL – Sept Isles	QC	X	NI	X
Irving Oil	NB	X	X	NI
Irving Oil – Canadian Importers	various	X	X	X
Kewatin Environmental Services	MB	N/A	X	X
Kildair Services	QC	X	N/A	N/A
Larry Penner – Winnipeg	MB	X	N/A	X
Marine Petrobulk	BC	X	N/A	NI
MSCG - Montreal	QC	X	X	N/A

Company	Province/ State	FIR ¹	Gasoline ²	Diesel ³
MSCG – Quebec	QC	X	X	N/A
MSCG - Ultramar	QC	X	X	N/A
Nanaimo Forest Products – Harmac	BC	X	N/A	N/A
NB Power Generation Corporation	NB	NI	N/A	N/A
Neucel Specialty Cellulose	BC	X	N/A	N/A
Newfoundland and Labrador Hydro	NL	X	N/A	N/A
North 60 Petro	YT	X	N/A	X
North Atlantic	NL	X	X	NI
Northland Biodiesel Marketing Incorporated	ON	N/A	N/A	X
Nova Scotia Power Incorporated	NS	X	N/A	N/A
PaceSetter Enterprises	YT	X	N/A	X
Parkland – Yukon	YT	X	N/A	X
Pétroles Norcan – Norcan Terminal	QC	X	X	NI
Sanimax Energy	ON	N/A	N/A	X
SCL – BC Imports	BC	X	X	X
SCL – MB Imports	MB	N/A	N/A	X
SCL – Ontario Imports	ON	X	X	N/A
SCL – QC Imports	QC	X	X	X
STC – AB Imports	AB	NI4	N/A	X
STC – BC Imports	BC	X	NI	X
STC – Ontario Imports	ON	NI	NI	N/A
STC – Quebec Imports	QC	X	NI	NI
SEI – Montreal	QC	X	X	X
SEI – Oakville	ON	NI	NI	NI
SEI – Port Moody	BC	X	X	X
SEI – Thunder Bay, Ottawa	ON	N/A	N/A	NI
SEPP – Sarnia	ON	NI	X	NI
Tolko – Manitoba	MB	X	N/A	N/A
Tombstone Energy Solutions Ltd	BC, AB	N/A	N/A	X
TAG – Kinder Morgan Vancouver Wharves	BC	NI	N/A	X
TCGP – Kinder Morgan Vancouver Wharves	BC	X	N/A	X
Twin Rivers Paper Company – Edmundston	NB	X	N/A	N/A
Ultramar Limitée – Terminal Halifax	NS	N/A	N/A	NI
Ultramar Limitée – Terminal de Holyrood	NF	N/A	N/A	NI
Ultramar Limitée – Montreal	QC	X	X	NI
Ultramar Limitée – St. Romuald	QC	X	X	X
WPC – Alberta	AB	X	N/A	X
WPC – BC	BC	X	N/A	X
WPC - Manitoba	MB	X	X	X
WPC - Ontario	ON	X	N/A	X
WPC - Saskatchewan	SK	X	X	X

X = Report received; NI = No Imports Reported;

NI4 = No imports reported under Section 4 of the *Fuels Information Regulations, No. 1*;

N/A = Not Applicable

CCRL = Consumer's Co-operative Refineries Limited; CFS = Canadian Forces Station; CN = Canadian National; CP = Canadian Pacific; ERS = Environmental Refuelling Systems

IOL = Imperial Oil Limited; MSCG = Morgan Stanley Capital Group; SCL = Shell Canada Limited; SEI = Suncor Energy Incorporated; STC = Shell Trading Canada;

TAG = Trafigura AG; TCGP = Trafigura Canada General Partnership; WPC = Western Petroleum Company

¹ Fuels Information Regulations, No. 1.

² Sulphur in Gasoline Regulations.

³ Sulphur in Diesel Fuel Regulations.

Table 2.3c: Importers Reporting Under the Respective Fuels Regulations in 2012

Company	Province/ State	FIR ¹	Gasoline ²	Diesel ³
1796640 Ontario Ltd (Canadian Operators Petroleum)	ON	N/A	N/A	X
AFD Petroleum Limited	AB	X	N/A	X
Air Canada - Westridge	BC	X	N/A	N/A
Air North Whitehorse Airport	YT	X	N/A	N/A
Archer Daniels Midland	SK, MB	N/A	N/A	X
Astra Energy Canada Incorporated – AB Imports	AB	N/A	N/A	X
Astra Energy Canada Incorporated – SK Imports	SK	N/A	N/A	X
Astra Energy Canada Incorporated – MB Imports	MB	N/A	N/A	X
CCRL	SK	X	NI	NI
CFS Alert	NU	X	N/A	X
Chevron Burnaby Refinery	BC	X	X	NI
City Farm Biofuel	BC	N/A	N/A	X
Cliffs Natural Resources – Mines Wabush	QC	X	N/A	N/A
CN Railway CN Symington LRC	MB	X	N/A	X
CN Railway CN Thorton Yard	BC	X	N/A	X
Coco Paving Inc	ON	NI	N/A	NI
CP Railway – MB Imports	MB	X	N/A	X
CP Railway – ON Imports	ON		N/A	X
CP Railway – SK Imports	SK		N/A	X
Elbow River – Tracy – Kildair Services Limitée	QC	X	N/A	N/A
Elbow River – Vopak Terminals	QC	X	N/A	N/A
ERS Incorporated	YT	X	N/A	X
G&B Fuels Inc	AB	NI	NI	NI
General Motors of Canada Limited	ON	N/A	N/A	X
Gra Ham Energy Limited	ON	X	N/A	X
Hartland Fuel Products	AB	NI4	N/A	X
Idemitsu Apollo – Kinder Morgan Vancouver Wharves	BC	X	N/A	X
IOL – Atlantic terminals	NS	NI	NI	NI
IOL - Burnaby	BC	X	N/A	NI
IOL – Eastern Passage	NS	X	N/A	N/A
IOL – IOCO Terminal	BC	X	N/A	N/A
IOL – Ontario Terminals	ON	NI	NI	NI
IOL – Sarnia	ON	N/A	X	X

Company	Province/ State	FIR ¹	Gasoline ²	Diesel ³
IOL – SEI Montreal	QC	X	N/A	N/A
IOL – Sept Isles	QC	X	N/A	NI
Irving Oil	NB	X	X	NI
Kildair Services	QC	X	N/A	N/A
Larry Penner – Winnipeg	MB	X	N/A	NI
Marine Petrobulk	BC	X	N/A	NI
MSCG - Montreal	QC	X	X	X
MSCG - Quebec	QC	X		
MSCG - Ultramar	QC	X		
Neucel Specialty Cellulose	BC	X	N/A	N/A
Newfoundland and Labrador Hydro	NL	X	N/A	N/A
North 60 Petro	YT	X	N/A	X
North Atlantic	NL	X	X	NI
PaceSetter Enterprises	YT	X	N/A	X
Parkland – Yukon	YT	X	N/A	NI
Pétroles Norcan – Norcan Terminal	QC	X	X	NI
Sanimax Energy	ON	N/A	N/A	NI
SCL – AB Imports	AB	NI4	N/A	X
SCL – BC Imports	BC	X	X	X
SCL – MB Imports	MB	NI4	N/A	X
SCL – Ontario Imports	ON	X	NI	NI
SCL – QC Imports	QC	X	X	X
SEI – Metro Depot Terminal	ON	N/A	N/A	X
SEI – Montreal	QC	X	X	NI
SEI – Nepean, Thunder Bay, Ottawa Terminals	ON	N/A	N/A	NI
SEI – Oakville	ON	NI	NI	NI
SEI – Port Moody	BC	X	X	X
STC – AB Imports	AB	X	N/A	NI
STC – BC Imports	BC	NI4	NI	X
STC – Ontario Imports	ON	X	NI	NI
STC – Quebec Imports	QC	X	NI	NI
Stephan Canada	ON	NI4	N/A	X
Texpar Energy	Wisconsin	X	N/A	N/A
Tolko – Manitoba	MB	X	N/A	N/A
Tombstone Energy	BC	N/A	N/A	X
TAG – Kinder Morgan Vancouver Wharves	BC	X	N/A	X
TCGP – Kinder Morgan Vancouver Wharves	BC	X	N/A	X
Twin Rivers Paper Company – Edmundston	NB	X	N/A	N/A
Ultramar Limitée – Newfoundland Imports	NL	N/A	N/A	X
Ultramar Limitée – Nova Scotia	NS	N/A	N/A	NI
Ultramar Limitée – QC Imports	QC	N/A	N/A	X
Ultramar Limitée – St. Romuald	QC	X	X	X
WPC – BC	BC	X	N/A	N/A
WPC - Manitoba	MB	X	X	X
WPC - Ontario	ON	X	X	X
WPC - Saskatchewan	SK	X	X	X

X = Report received; NI = No Imports Reported;

NI4 = No imports reported under Section 4 of the *Fuels Information Regulations, No. 1*;

N/A = Not Applicable

CCRL = Consumer's Co-operative Refineries Limited; CFS = Canadian Forces Station; CN = Canadian National; CP = Canadian Pacific; ERS = Environmental Refuelling Systems; IOL = Imperial Oil Limited;

MSCG = Morgan Stanley Capital Group; SCL = Shell Canada Limited; SEI = Suncor Energy Incorporated;

STC = Shell Trading Canada; TAG = Trafigura AG; TCGP = Trafigura Canada General Partnership;

WPC = Western Petroleum Company

¹ *Fuels Information Regulations, No. 1*.

² *Sulphur in Gasoline Regulations*.

³ *Sulphur in Diesel Fuel Regulations*.

2.6 Company-Specific Sulphur Levels

Appendix D presents data on the annual volume-weighted sulphur content (in mg/kg) for gasoline, diesel fuel, fuel oils and jet fuel during the period 1995 to 2012 for each Canadian refinery and importer.

3 Volumes of Liquid Fuels Produced/Imported

In order to verify their accuracy, the reported volumes of produced fuels were compared to Statistics Canada figures for 2010, 2011 and 2012 (see Tables 3.1a, b and c). Variances between the two sets of data may result from the different approaches, as noted below.

Table 3.1a: Volumes of Liquid Fuels Produced and Imported for Sale in Canada, Reported to Statistics Canada and Environment Canada for 2010

Type of Fuel	Statistics Canada	Environment Canada
	(m ³)	(m ³)
Aviation Turbo Fuel	5 709 900	6 653 666
Motor/Aviation Gasoline	39 674 500	40 962 000
Kerosene/Stove oil	341 500	793 921
Ultra-Low Sulphur Diesel Fuel		27 939 750
Low Sulphur Diesel Fuel	26 172 900	1 072 906
High-Sulphur Diesel Fuel		18 261
Light Fuel Oil	3 232 900	2 042 763
Heavy Fuel Oil	5 073 200	5 786 244
Plant Consumption/Other	6 783 400	1 517 285
TOTAL	86 988 300²	86 786 796²

Source: Statistics Canada, Catalogue No. 45-004-X monthly, January 2011.

Table 3.1b: Volumes of Liquid Fuels Produced and Imported for Sale in Canada Reported to Statistics Canada and Environment Canada for 2011

Type of Fuel	Statistics Canada	Environment Canada
	(m ³)	(m ³)
Aviation Turbo Fuel	5 636 500	6 451 195
Motor/Aviation Gasoline	38 275 800	39 351 344
Kerosene/Stove oil	541 500	765 155
Ultra-Low Sulphur Diesel Fuel		29 198 819
Low Sulphur Diesel Fuel	26 460 700	1 005 661
High-Sulphur Diesel Fuel		N/A ¹
Light Fuel Oil	3 732 400	1 644 099
Heavy Fuel Oil	4 219 500	5 311 021
Plant Consumption/Other	6 137 700	1 317 171
TOTAL	85 004 100²	85 044 464²

Source: Statistics Canada, Catalogue No. 45-004-X monthly, January 2012.

Table 3.1c: Volumes of Liquid Fuels Produced and Imported for Sale in Canada Reported to Statistics Canada and Environment Canada for 2012

Type of Fuel	Statistics Canada	Environment Canada
	(m ³)	(m ³)
Aviation Turbo Fuel	6 424 400	6 298 331
Motor/Aviation Gasoline	36 836 300	38 892 098
Kerosene/Stove oil	594 400	58 770
Ultra-Low Sulphur Diesel Fuel		28 972 349
Low Sulphur Diesel Fuel	24 465 100	268 641
High-Sulphur Diesel Fuel		N/A ¹
Light Fuel Oil	2 917 000	1 617 422
Heavy Fuel Oil	3 717 700	6 283 465
Plant Consumption/Other	6 162 600	1 622 822
TOTAL	81 117 500²	84 013 897²

Source: Statistics Canada, Catalogue No. 45-004-X monthly, January 2013.

Notes:

1. When less than three companies are reporting, the volume is not included to protect confidential information.
2. Total volume excludes the volume not included, as per 1 above.
3. Statistics Canada data was compiled for the years 2010, 2011 and 2012. Other than Plant Consumption/Other, for each fuel listed in Tables 3.1 a, b and c, volumes were calculated using the following formula: Refinery Production – Inter-Product transfers + Imports – Exports – Own Consumption. For Plant Consumption, Statistics Canada lists “the own consumption” for each fuel. They were summed together. For Other, Statistics Canada indicates “other petroleum products.” It was calculated using the following formula: Refinery Production – inter-product transfers + Imports – Exports – Own Consumption.
4. Statistics Canada does not differentiate between the sulphur level of diesel fuel, that is, ultra-low-sulphur, low-sulphur and high sulphur diesel grades in regards to production. All diesel fuel produced or imported in Canada is under the “Diesel Fuel” category.
5. According to Statistics Canada, approximately 75–80% of refinery-produced kerosene and stove oil are later transferred to diesel and light fuel oils.
6. Volumes reported to Environment Canada mostly reflect production at the various refineries, while Statistics Canada considers opening and closing inventories and inter-product transfers.
7. Statistics Canada defined “Own Consumption” as the amount of petroleum product produced or purchased and used in refinery operations. Environment Canada volumes reported under “Plant Consumption” included pitch, intermediate fuel oils, marine bunker, heavy fuel oil, kerosene, plant fuel oil, diesel fuels and unspecified fuels. The Environment Canada quarterly report Form 1 does not list “Plant Consumption” as a liquid fuel to report, although it has been historically reported by some companies.
8. Statistics Canada’s “Other Petroleum Products” is defined as all other petroleum products such as wax and candles, unfinished products, etc. The “Other” category under the *Fuels Information Regulations*, No. 1 includes bunker.
9. Totals may not add up due to rounding and volumes not included.

4 Volumes of Liquid Fuels Produced/Imported and Fuel Sulphur Content

4.1 National and Regional Summaries

The following figures and tables summarize the data compiled from reports submitted pursuant to the *Fuels Information Regulations, No. 1* for 2010-2012:

- National Data for Liquid Fuels: Table 4.1a,b and c, Figures 4.1a,b and c and 4.2a, b and c
- Regional Data for Liquid Fuels: Tables 4.2a,b and c to 4.5a, b and c, Figures 4.3 and 4.4
- Regional Data for Motor/Aviation Gasoline: Figure 4.5
- Refinery/Importer Data for Motor Gasoline: Figures 4.6a, b and c
- Refinery/Importer Data for Diesel Fuel: Figures 4.7a, b and c and 4.8a, b and c
- Historical Trends (National): Figures 4.9 to 4.14

Note that for the purpose of this section, the terms production and refiner include blenders and upgraders reporting under the *Fuels Information Regulations, No. 1*.

Table 4.1a: National Summary of Fuel Production/Imports and Sulphur Content for 2010

Type of Fuel	Fuel Production / Imports		Sulphur Mass	Average Sulphur Content	Distribution of Sulphur in Products
	(m ³)	(% of total)	(tonnes)	(mg/kg)	(%)
Aviation Turbo Fuel	6 653 666	7.67%	2 435	454	2.29%
Motor Gasoline	40 876 875	47.10%	532	18	0.50%
Aviation Gasoline	85 124	0.10%	0.3	5	0.00%
Kerosene/Stove oil	793 921	0.91%	41	62	0.04%
Ultra-Low Sulphur Diesel	27 939 750	32.19%	115	5	0.11%
Low-Sulphur Diesel Fuel	1 072 906	1.24%	220	242	0.21%
High-Sulphur Diesel Fuel	18 261	0.02%	19	1 243	0.02%
Light Fuel Oil	2 042 763	2.35%	1 382	789	1.30%
Heavy Fuel Oil	5 786 244	6.67%	89 866	15 686	84.64%
Plant Consumption/Other	1 517 285	1.75%	11 567	7 771	10.89%
TOTAL	86 786 796¹	100.00%²	106 178	-	100.00%

Notes: In the Type of Fuel category, “Plant Consumption” and “Other” were combined for 2010. Fuels reported under these categories included pitch, intermediate fuel oils, marine bunker, heavy fuel oil, kerosene, plant fuel oil, diesel fuels and unspecified fuels.

¹Total volume excludes the volume not included, as per 1 above.

²Totals may not add up due to rounding.

Table 4.1b: National Summary of Fuel Production/Imports and Sulphur Content for 2011

Type of Fuel	Fuel Production / Imports		Sulphur Mass	Average Sulphur Content	Distribution of Sulphur in Products
	(m ³)	(% of total)	(tonnes)	(mg/kg)	(%)
Aviation Turbo Fuel	6 451 195	7.59%	2 896	559	3.13%
Motor Gasoline	39 279 534	46.19%	563	20	0.61%
Aviation Gasoline	71 811	0.08%	0.4	8	0.00%
Kerosene/Stove oil	765 155	0.90%	15	24	0.02%
Ultra-Low Sulphur Diesel	29 198 819	34.33%	139	6	0.15%
Low-Sulphur Diesel Fuel	1 005 661	1.18%	195	227	0.21%
High-Sulphur Diesel Fuel	N/A ¹	N/A	N/A	538	N/A
Light Fuel Oil	1 644 099	1.93%	1 383	988	1.50%
Heavy Fuel Oil	5 311 021	6.24%	76 942	14 585	83.23%
Plant Consumption/Other	1 317 171	1.55%	10 313	7 912	11.16%
TOTAL	85 044 464²	100.00%³	92 446	-	100.00%

Notes: In the Type of Fuel category, “Plant Consumption” and “Other” were combined for 2011. Fuels reported under these categories included pitch, intermediate fuel oils, marine bunker, heavy fuel oil, diesel fuels and unspecified liquid fuels

¹When less than three companies are reporting, the volume is not included to protect confidential information.

²Total volume excludes the volume not included, as per 1 above.

³Totals may not add up due to rounding.

Table 4.1c: National Summary of Fuel Production/Imports and Sulphur Content for 2012

Type of Fuel	Fuel Production / Imports		Sulphur Mass	Average Sulphur Content	Distribution of Sulphur in Products
	(m ³)	(% of total)	(tonnes)	(mg/kg)	(%)
Aviation Turbo Fuel	6 298 331	7.50%	2 738	539	2.86%
Motor Gasoline	38 829 365	46.22%	594	21	0.62%
Aviation Gasoline	62 733	0.07%	0	4	0.00%
Kerosene/Stove oil	58 770	0.07%	13	276	0.01%
Ultra-Low Sulphur Diesel	28 972 349	34.49%	133	5	0.14%
Low-Sulphur Diesel Fuel	268 641	0.32%	56	248	0.06%
High-Sulphur Diesel Fuel	N/A ¹	N/A	N/A	1 384	N/A
Light Fuel Oil	1 617 422	1.93%	997	730	1.04%
Heavy Fuel Oil	6 283 465	7.48%	79 223	12 657	82.81%
Plant Consumption/Other	1 622 822	1.93%	11 915	8 080	12.45%
TOTAL	84 013 897²	100.00%³	95 669	-	100.00%

Notes: In the Type of Fuel category, “Plant Consumption” and “Other” were combined for 2012. Fuels reported under these categories included pitch, intermediate fuel oils, marine bunker, heavy fuel oil, furnace fuel oil, diesel fuels and unspecified liquid fuels.

¹When less than three companies are reporting, the volume is not included to protect confidential information.

²Total volume excludes the volume not included, as per 1 above.

³Totals may not add up due to rounding.

Figure 4.1a: National Liquid Fuel Production/Imports in 2010

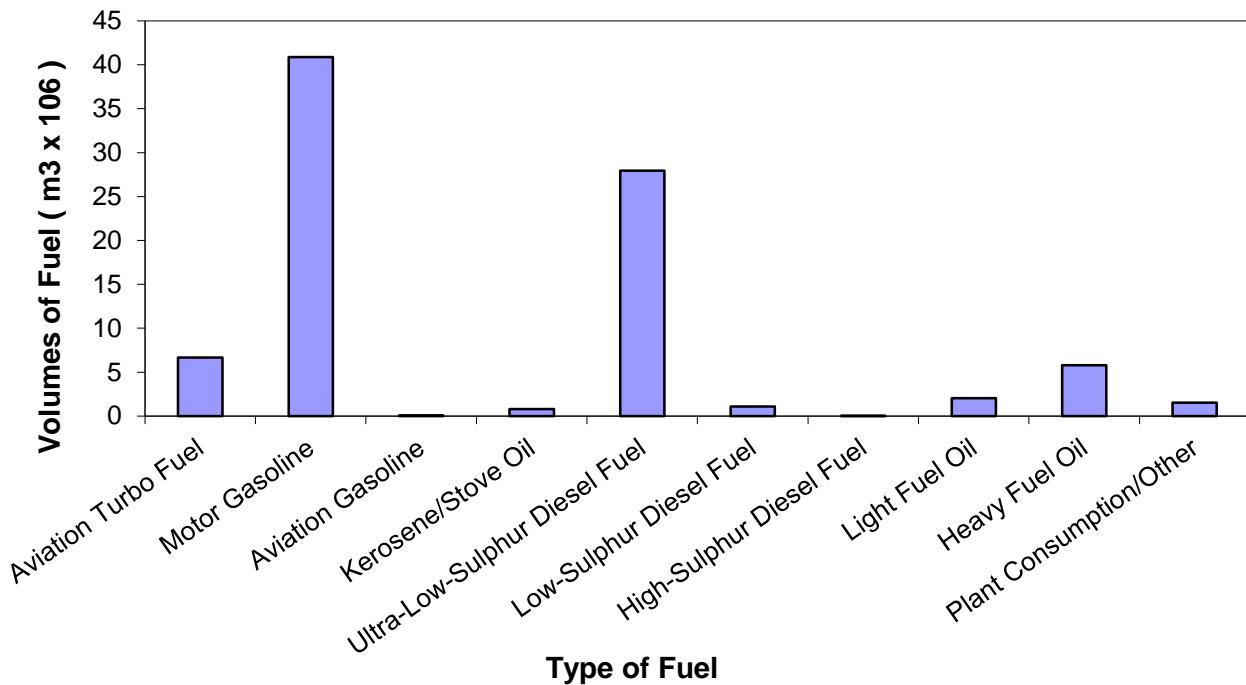
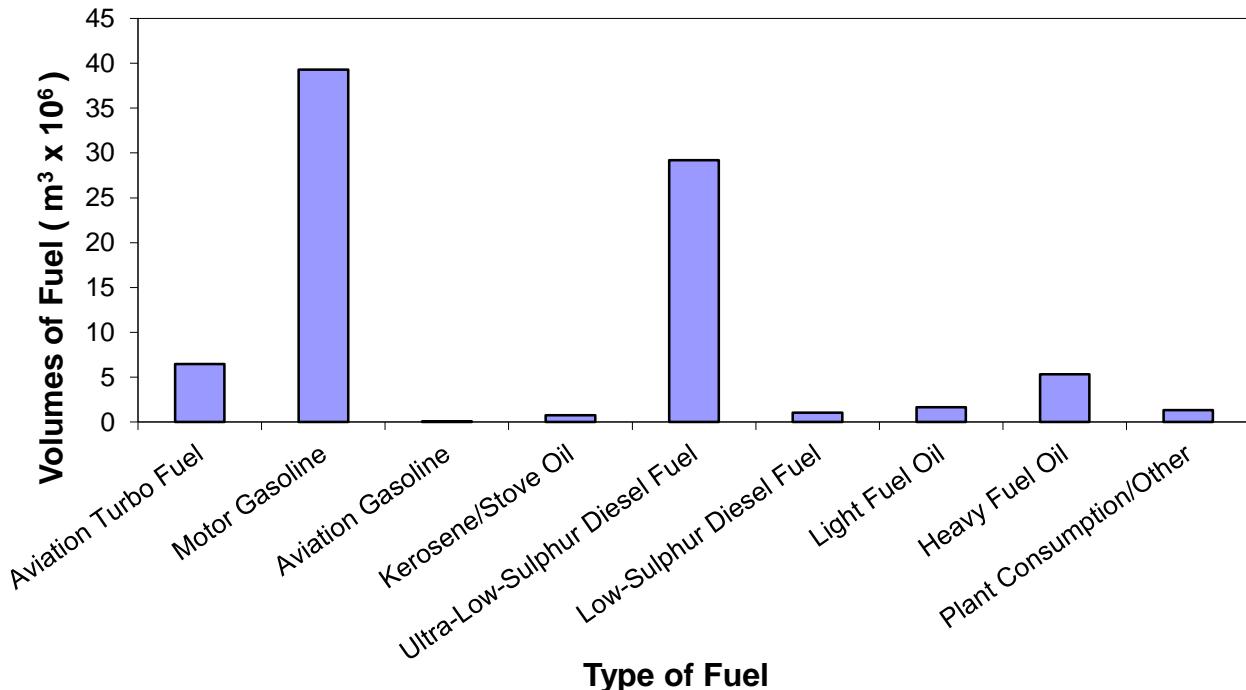
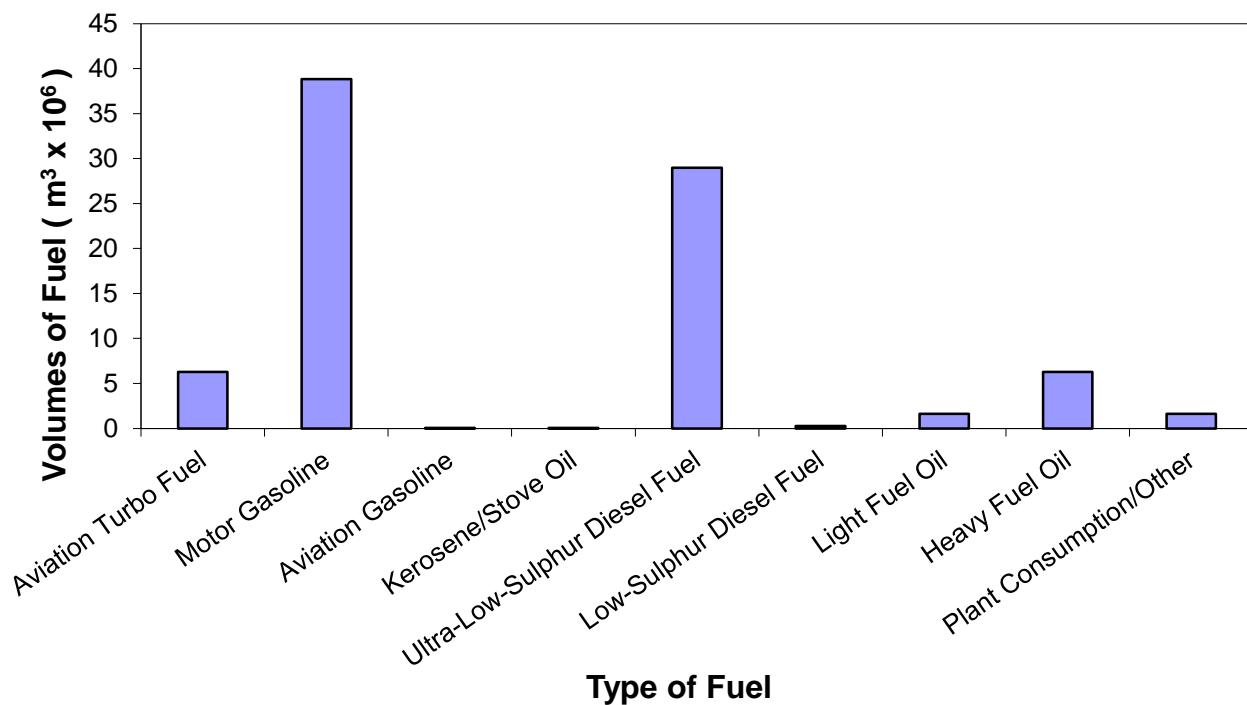


Figure 4.1b: National Liquid Fuel Production/Imports in 2011



Note: When less than three companies are reporting, the High-Sulphur Diesel data is not included to protect confidential data.

Figure 4.1c: National Liquid Fuel Production/Imports in 2012



Note: When less than three companies are reporting, the High-Sulphur Diesel data is not included to protect confidential data.

Figure 4.2a: Tonnage of Sulphur in Liquid Fuels (kilotonnes) in 2010

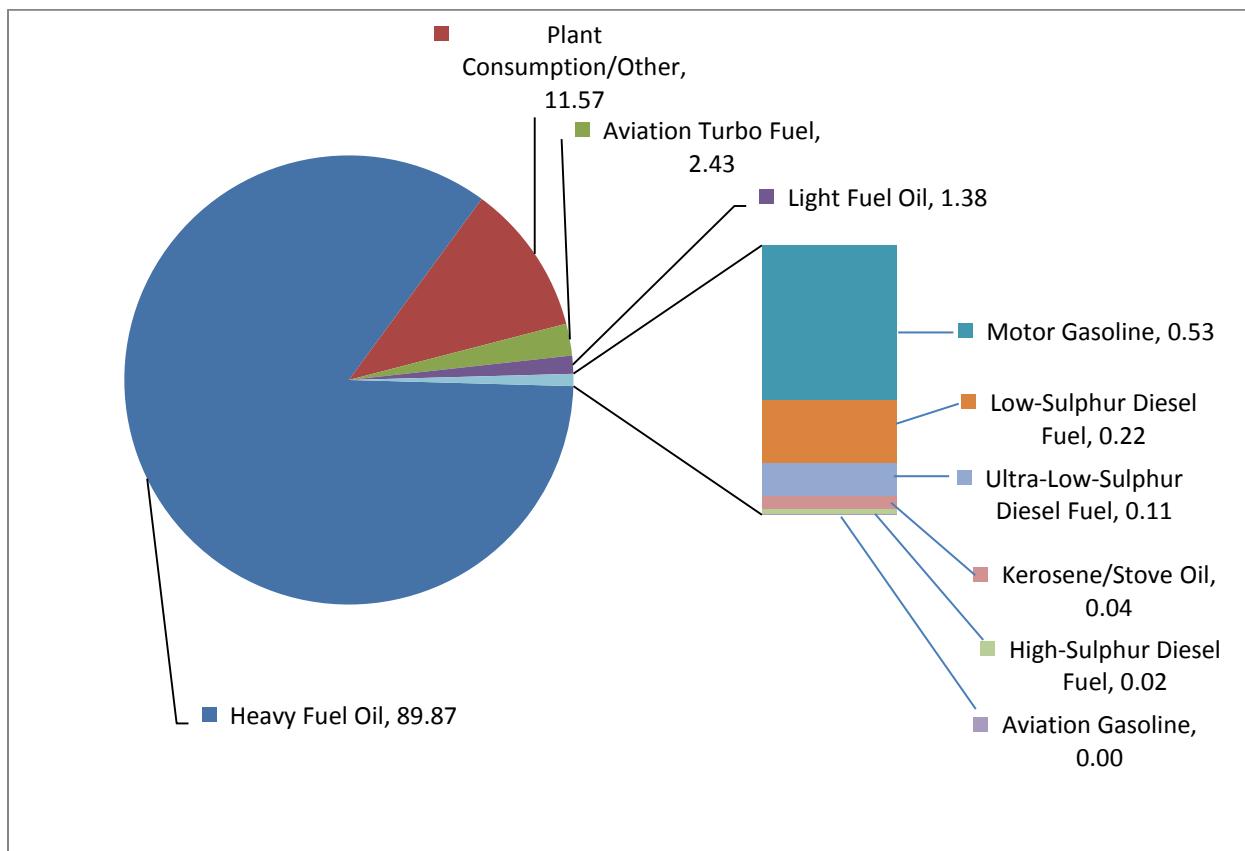
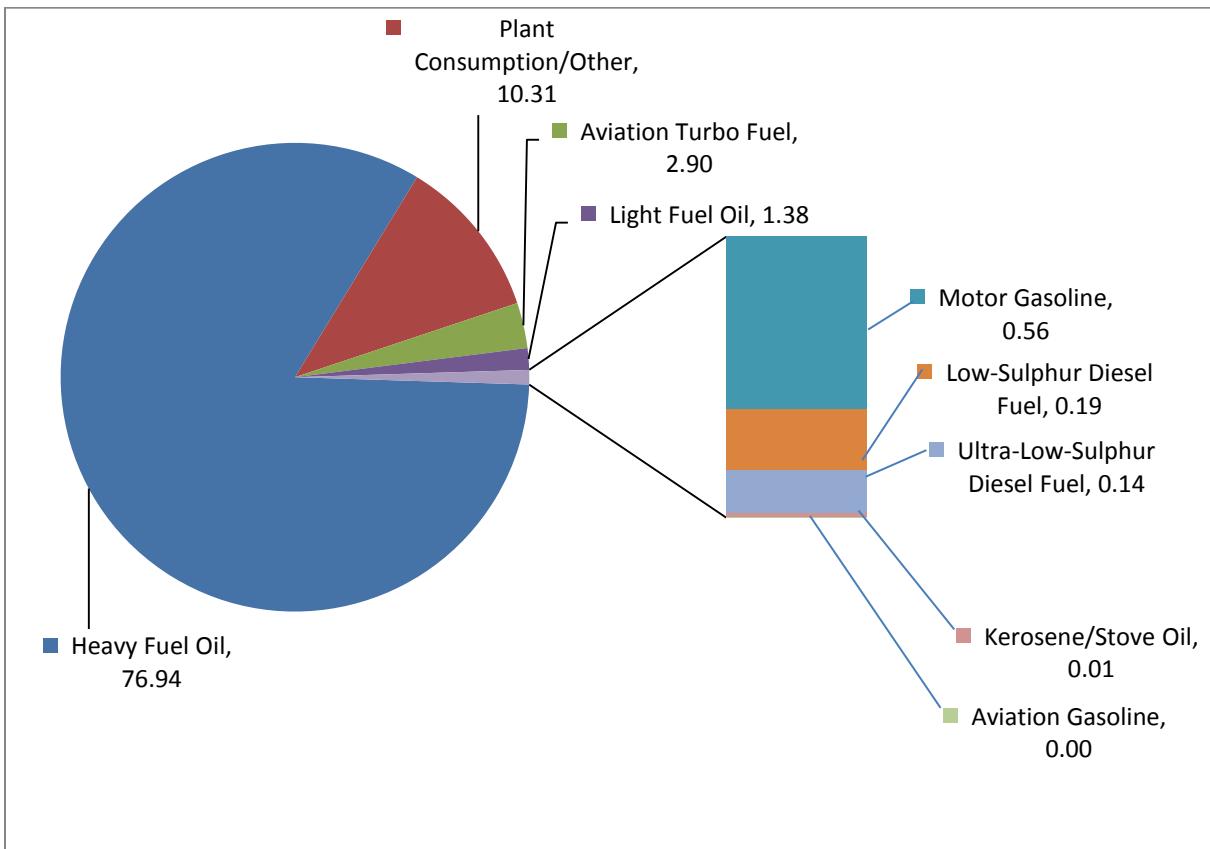
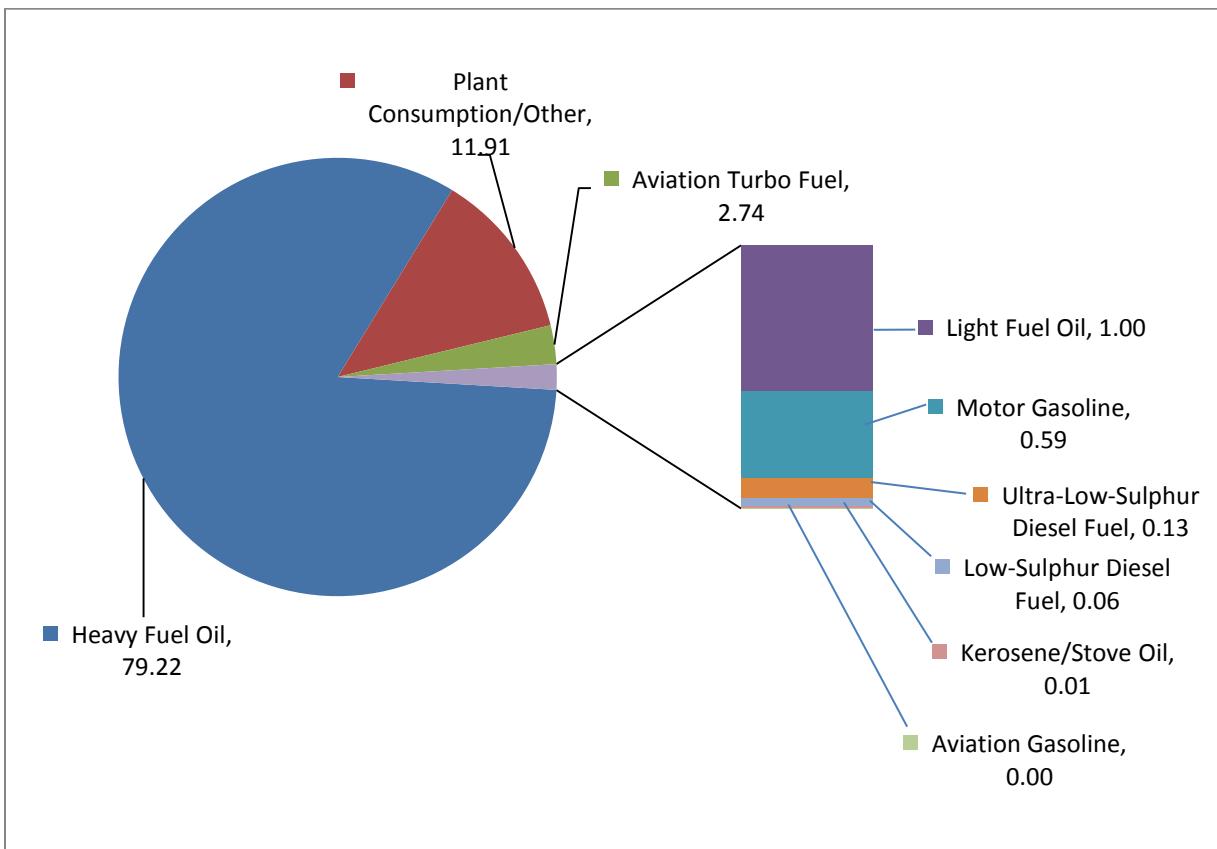


Figure 4.2b: Tonnage of Sulphur in Liquid Fuels (kilotonnes) in 2011



Note: When less than three companies are reporting, the High-Sulphur Diesel data is not included to protect confidential data.

Figure 4.2c: Tonnage of Sulphur in Liquid Fuels (kilotonnes) in 2012



Note: When less than three companies are reporting, the High-Sulphur Diesel data is not included to protect confidential data.

Table 4.2a: Atlantic Region Summary of Fuel Production/Imports and Sulphur Content for 2010

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	434 553	412	1 182	2.21%
Motor Gasoline	3 167 840	52	22	0.28%
Aviation Gasoline	0	0	0	0.00%
Kerosene/Stove oil	N/A ¹	N/A	332	N/A
Ultra Low-Sulphur Diesel Fuel	1 701 592	10	7	0.05%
Low-Sulphur Diesel Fuel	246 308	41	199	0.22%
High-Sulphur Diesel Fuel	N/A ¹	N/A	770	N/A
Light Fuel Oil	955 600	1 021	1 252	5.46%
Heavy Fuel Oil	1 223 310	17 152	14 179	91.78%
Plant Consumption/Other	N/A ¹	N/A	12 404	N/A
TOTAL	7 729 203²	18 689	-	100.00%

Notes: Plant Consumption/Other" in the Atlantic region consists mostly of pitch, intermediate fuel oil, marine bunker and heavy fuel oil.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above.

Table 4.2b: Atlantic Region Summary of Fuel Production/Imports and Sulphur Content for 2011

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	419 287	532	1 591	3.93%
Motor Gasoline	3 115 276	57	25	0.42%
Aviation Gasoline	0	0	0	0.00%
Kerosene/Stove oil	N/A ¹	N/A	1 081	N/A
Ultra Low-Sulphur Diesel Fuel	3 525 842	29	10	0.21%
Low-Sulphur Diesel Fuel	333 276	39	136	0.28%
High-Sulphur Diesel Fuel	0	0	0	0.00%
Light Fuel Oil	974 019	1 252	1 510	9.25%
Heavy Fuel Oil	978 212	11 624	11 911	85.90%
Plant Consumption/Other	N/A ¹	N/A	12 233	N/A
TOTAL	9 345 912²	13 532	-	100.00%

Notes: Plant Consumption/Other" in the Atlantic region consists mostly of pitch, intermediate fuel oil and marine bunker.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above.

Table 4.2c: Atlantic Region Summary of Fuel Production/Imports and Sulphur Content for 2012

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	494 074	691	1 752	3.44%
Motor Gasoline	3 069 354	60	27	0.30%
Aviation Gasoline	0	0	0	0.00%
Kerosene/Stove oil	N/A ¹	N/A	709	N/A
Ultra Low-Sulphur Diesel Fuel	1 986 924	13	8	0.07%
Low-Sulphur Diesel Fuel	N/A ¹	N/A	104	N/A
High-Sulphur Diesel Fuel	0	0	0	0.00%
Light Fuel Oil	868 163	885	1 207	4.40%
Heavy Fuel Oil	2 416 424	18 438	7 513	91.79%
Plant Consumption/Other	N/A ¹	N/A	11 084	N/A
TOTAL	8 834 938²	20 088	-	100.00%

Notes: Plant Consumption/Other" in the Atlantic region consists mostly of pitch, intermediate fuel oil, marine bunker and heavy fuel oil.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above.

Table 4.3a: Québec Region Summary of Fuel Production/Imports and Sulphur Content for 2010

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	2 182 359	717	410	2.67%
Motor Gasoline	14 534 182	192	18	0.72%
Aviation Gasoline	N/A ¹	N/A	2	N/A
Kerosene/Stove oil	N/A ¹	N/A	4	N/A
Ultra Low-Sulphur Diesel Fuel	6 862 945	27	5	0.10%
Low-Sulphur Diesel Fuel	0	0	0	0.00%
High-Sulphur Diesel Fuel	0	0	0	0.00%
Light Fuel Oil	1 020 412	208	238	0.77%
Heavy Fuel Oil	1 811 639	20 879	11 797	77.79%
Plant Consumption/Other	500 824	4 815	9 742	17.94%
TOTAL	26 912 361²	26 838	-	100.00%

Notes: Plant Consumption/Other in Quebec region consists mostly of heavy fuel oil, kerosene and unspecified fuels.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above

Table 4.3b: Québec Region Summary of Fuel Production/Imports and Sulphur Content for 2011

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	2 000 326	1 144	713	5.35%
Motor Gasoline	12 859 115	191	20	0.89%
Aviation Gasoline	N/A ¹	N/A	9	N/A
Kerosene/Stove oil	712 076	3	5	0.01%
Ultra Low-Sulphur Diesel Fuel	6 868 994	34	6	0.16%
Low-Sulphur Diesel Fuel	0	0	0	0.00%
High-Sulphur Diesel Fuel	0	0	0	0.00%
Light Fuel Oil	N/A ¹	N/A	108	0.25%
Heavy Fuel Oil	1 827 884	20 023	11 089	93.59%
Plant Consumption/Other	N/A ¹	N/A	10 387	N/A
TOTAL	25 268 395²	21 395	-	100.00%

Notes: Plant Consumption/Other in Quebec region consists mostly of heavy fuel oil.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above

Table 4.3c: Québec Region Summary of Fuel Production/Imports and Sulphur Content for 2012

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	1 821 753	704	484	4.47%
Motor Gasoline	12 130 794	181	21	1.15%
Aviation Gasoline	N/A ¹	N/A	6	N/A
Kerosene/Stove oil	33 512	0.1	2	0.00%
Ultra Low-Sulphur Diesel Fuel	7 040 597	34	6	0.22%
Low-Sulphur Diesel Fuel	0	0	0	0.00%
High-Sulphur Diesel Fuel	0	0	0	0.00%
Light Fuel Oil	650 227	22	42	0.14%
Heavy Fuel Oil	1 487 979	14 823	10 132	94.02%
Plant Consumption/Other	N/A ¹	N/A	9 754	N/A
TOTAL	23 164 862²	15 765	-	100.00%

Notes: Plant Consumption/Other in Quebec region consists mostly of heavy fuel oil.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above

Table 4.4a: Ontario Region Summary of Fuel Production/Imports and Sulphur Content for 2010

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	1 161 076	542	575	1.57%
Motor Gasoline	10 112 267	128	17	0.37%
Aviation Gasoline	N/A ¹	N/A	10	N/A
Kerosene/Stove oil	N/A ¹	N/A	467	N/A
Ultra Low-Sulphur Diesel Fuel	5 694 133	31	6	0.09%
Low-Sulphur Diesel Fuel	248 214	64	303	0.19%
High-Sulphur Diesel Fuel	0	0	0	0.00%
Light Fuel Oil	N/A ¹	N/A	2 291	N/A
Heavy Fuel Oil	1 514 059	31 468	20 968	91.05%
Plant Consumption/Other	148 275	2 328	15 179	6.74%
TOTAL	18 878 023²	34 652	-	100.00%

Notes: Plant Consumption/Other in Ontario consists mostly of heavy fuel oil, plant fuel oil and unspecified liquid fuels.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above

Table 4.4b: Ontario Region Summary of Fuel Production/Imports and Sulphur Content for 2011

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	1 193 647	527	547	2.07%
Motor Gasoline	9 992 243	136	19	0.53%
Aviation Gasoline	N/A ¹	N/A	14	0.00%
Kerosene/Stove oil	N/A ¹	N/A	644	0.01%
Ultra Low-Sulphur Diesel Fuel	4 673 865	26	7	0.10%
Low-Sulphur Diesel Fuel	N/A ¹	N/A	347	N/A
High-Sulphur Diesel Fuel	0	0	0	0.00%
Light Fuel Oil	N/A ¹	N/A	1 438	N/A
Heavy Fuel Oil	1 057 970	22 706	21 600	88.94%
Plant Consumption/Other	126 523	2 133	16 388	8.36%
TOTAL	17 044 248²	25 529	-	100.00%

Notes: Plant Consumption/Other in Ontario consists mostly of heavy fuel oil, plant fuel oil, bunker fuel and unspecified liquid fuels.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above

Table 4.4c: Ontario Region Summary of Fuel Production/Imports and Sulphur Content for 2012

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	1 417 760	603	524	1.95%
Motor Gasoline	10 148 932	181	24	0.59%
Aviation Gasoline	N/A ¹	N/A	20	N/A
Kerosene/Stove oil	N/A ¹	N/A	389	N/A
Ultra Low-Sulphur Diesel Fuel	5 125 981	32	7	0.10%
Low-Sulphur Diesel Fuel	N/A ¹	N/A	271	N/A
High-Sulphur Diesel Fuel	0	0	0	0.00%
Light Fuel Oil	N/A ¹	N/A	944	N/A
Heavy Fuel Oil	1 223 974	28 498	23 420	92.32%
Plant Consumption/Other	122 222	1 488	11 825	4.83%
TOTAL	18 038 868²	30 802	-	100.00%

Notes: Plant Consumption/Other in Ontario consists mostly of heavy fuel oil, furnace fuel oil and unspecified liquid fuels.

¹When less than three companies are reporting, the volume is not included to protect confidential information.

²Total volume excludes the volume not included, as per 1 above

Table 4.5a: Western Region Summary Fuel Production/Imports and Sulphur Content for 2010

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	2 875 679	763	328	3.54%
Motor Gasoline	13 062 586	161	17	0.75%
Aviation Gasoline	38 154	0.3	9	0.00%
Kerosene/Stove oil	10 619	0.1	9	0.00%
Ultra Low-Sulphur Diesel Fuel	13 681 080	46	4	0.22%
Low-Sulphur Diesel Fuel	578 384	114	233	0.53%
High-Sulphur Diesel Fuel	N/A ¹	N/A	1 396	N/A
Light Fuel Oil	39 564	101	2 790	0.47%
Heavy Fuel Oil	1 237 236	20 367	16 408	94.41%
Plant Consumption/Other	494 350	21	51	0.10%
TOTAL	32 017 653²	21 574	-	100.00%

Notes: Plant Consumption/Other in the West region—i.e. MB, SK, AB, BC, YT, NT and NU—consists mostly of diesel fuels and unspecified liquid fuels.

¹When less than three companies are reporting, the volume is not included to protect confidential information.

²Total volume excludes the volume not included, as per 1 above

Table 4.5b: Western Region Summary Fuel Production/Imports and Sulphur Content for 2011

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	2 837 934	693	303	2.93%
Motor Gasoline	13 312 900	178	18	0.75%
Aviation Gasoline	52 196	0.3	7	0.00%
Kerosene/Stove oil	41 834	3	90	0.01%
Ultra Low-Sulphur Diesel Fuel	14 130 118	51	4	0.22%
Low-Sulphur Diesel Fuel	401 561	75	221	0.32%
High-Sulphur Diesel Fuel	N/A ¹	N/A	538	N/A
Light Fuel Oil	17 830	13	834	0.06%

Heavy Fuel Oil	1 446 956	22 589	15 679	95.67%
Plant Consumption/Other	447 384	9	25	0.04%
TOTAL	32 688 713²	23 612	-	100.00%

Notes: Plant Consumption/Other in the West region—i.e. MB, SK, AB, BC, YT, NT and NU—consists mostly of diesel fuels.

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above

Table 4.5c: Western Region Summary Fuel Production/Imports and Sulphur Content for 2012

Type of Fuel	Fuel Production / Imports (m ³)	Sulphur Mass (tonnes)	Average Sulphur Content (mg/kg)	Distribution of Sulphur in Products (%)
Aviation Turbo Fuel	2 564 743	739	354	3.30%
Motor Gasoline	13 480 286	171	17	0.76%
Aviation Gasoline	48 094	0.1	4	0.00%
Kerosene/Stove oil	10 232	5	596	0.02%
Ultra Low-Sulphur Diesel Fuel	14 818 848	54	4	0.24%
Low-Sulphur Diesel Fuel	218 272	48	263	0.22%
High-Sulphur Diesel Fuel	N/A ¹	N/A	1 384	N/A
Light Fuel Oil	20 536	29	1 523	0.13%
Heavy Fuel Oil	1 155 088	17 463	15 265	77.96%
Plant Consumption/Other	747 553	3 890	5 218	17.37%
TOTAL	33 063 656²	22 400	-	100.00%

Notes: Plant Consumption/Other in the West region—i.e. MB, SK, AB, BC, YT, NT and NU—consists mostly of diesel fuels, bunker fuel and heavy fuel oil

¹ When less than three companies are reporting, the volume is not included to protect confidential information.

² Total volume excludes the volume not included, as per 1 above

Table 4.6: National Volume-Weighted Averages of the Density of Fuels Produced and Imported in 2010, 2011 and 2012 (kg/m³)

Type of Fuel	2010	2011	2012
Aviation Turbo Fuel	809.1	807.8	809.4
Motor Gasoline	733.1	731.1	730.3
Aviation Gasoline	703.9	702.6	704.6
Kerosene/Stove oil	810.1	808.4	810.8
Ultra Low-Sulphur Diesel Fuel	845.2	841.2	840.6
Low-Sulphur Diesel Fuel	849.7	850.4	840.9
High-Sulphur Diesel Fuel	851.5	813.5	793.4
Light Fuel Oil	841.3	841.3	838.0
Heavy Fuel Oil	1001.0	991.9	999.7
Plant Consumption/Other	923.5	930.4	878.4

Figure 4.3a: Mass of Sulphur in Liquid Fuels Produced/Imported in 2010

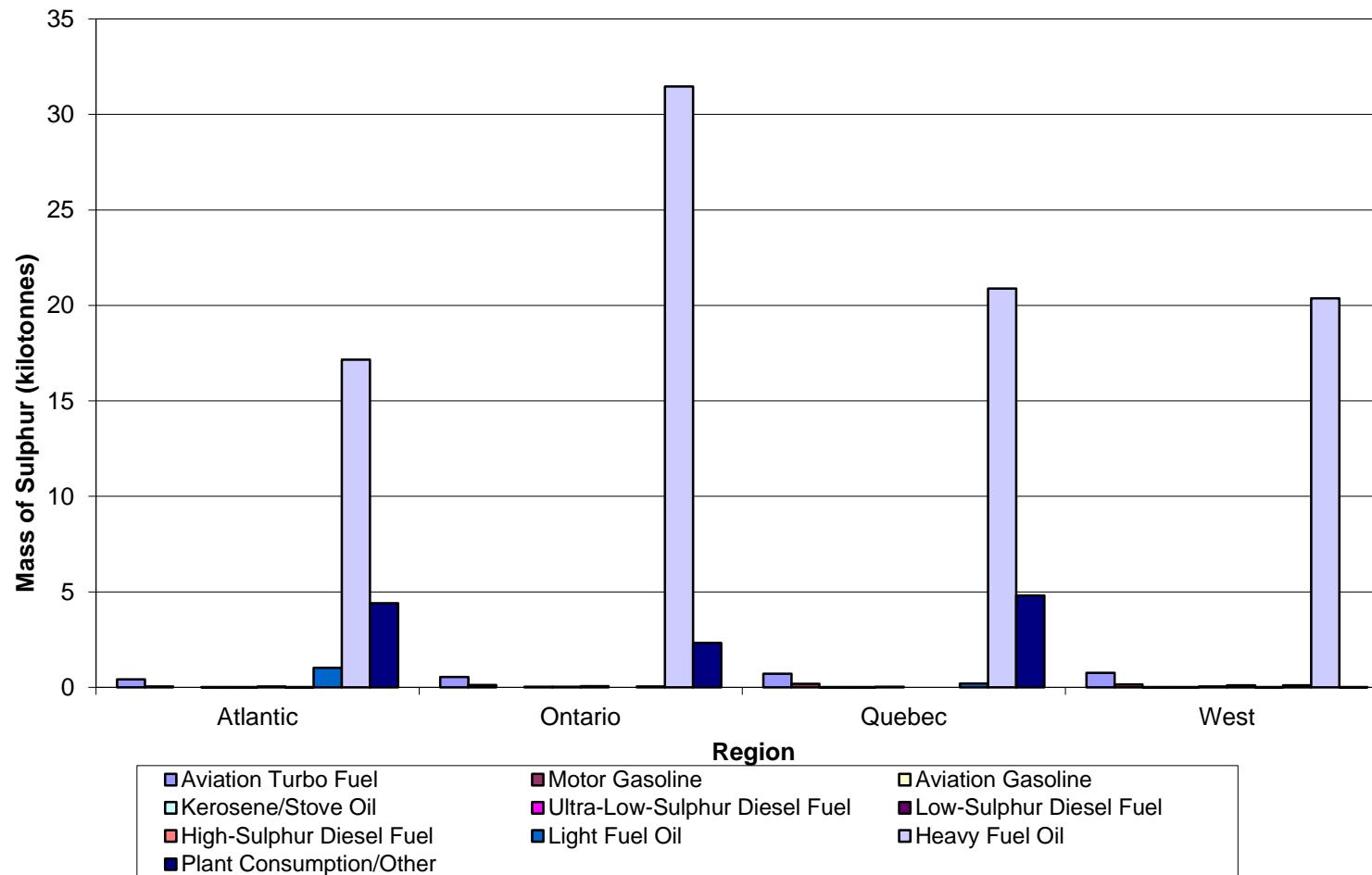


Figure 4.3b: Mass of Sulphur in Liquid Fuels Produced/Imported in 2011

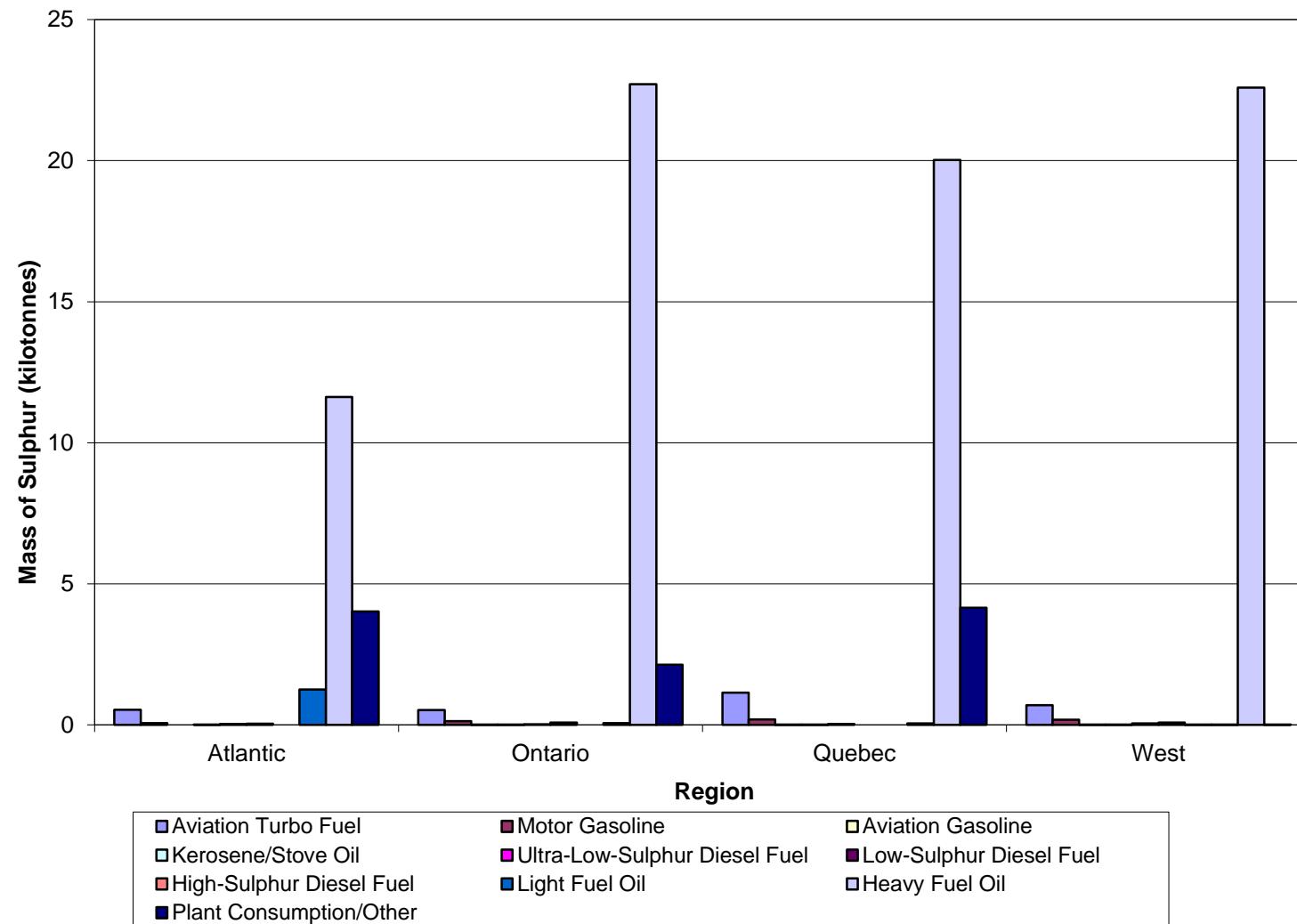


Figure 4.3c: Mass of Sulphur in Liquid Fuels Produced/Imported in 2012

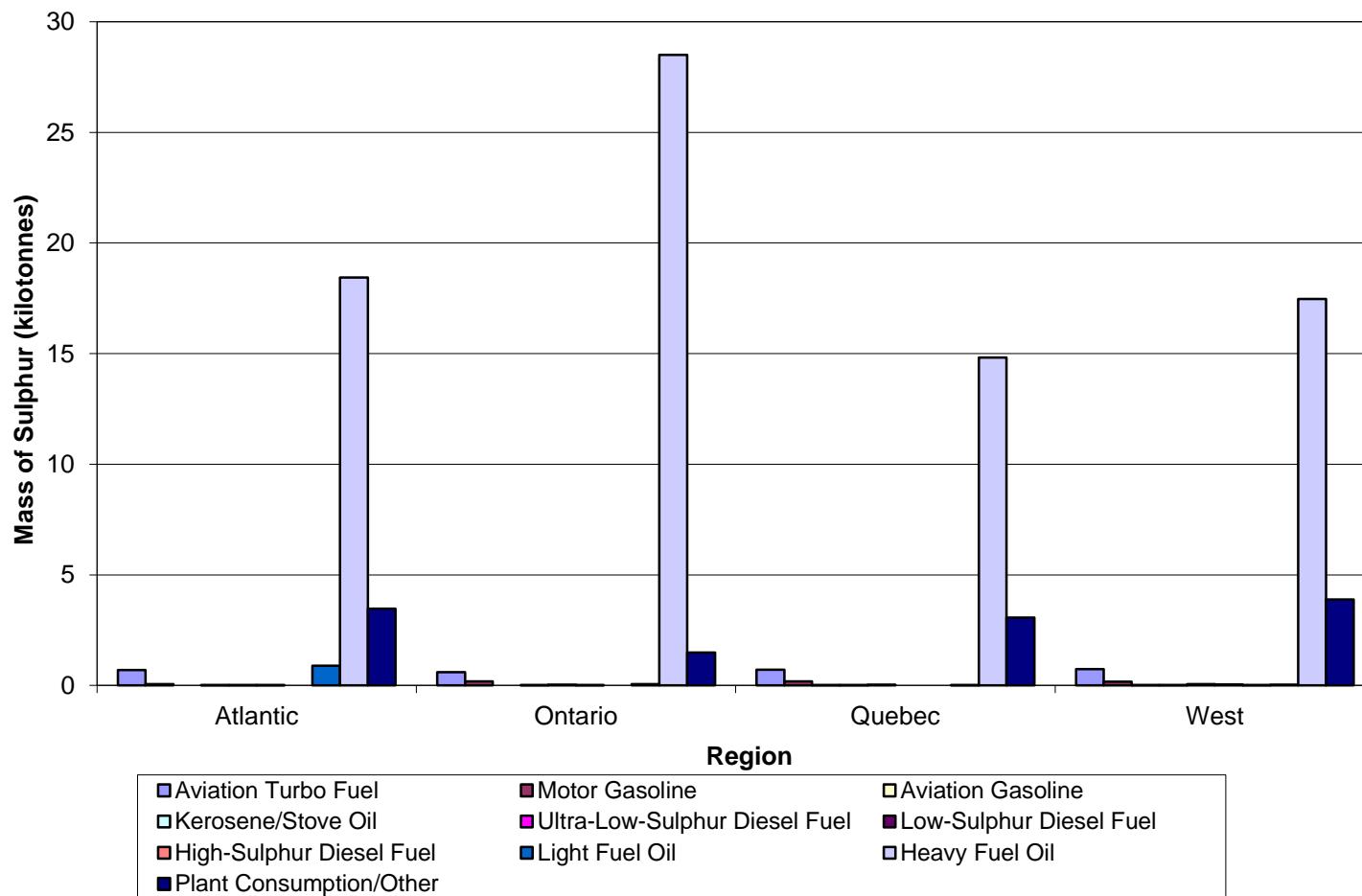


Figure 4.4: Sulphur Mass in Liquid Fuels by Region, 1997-2012

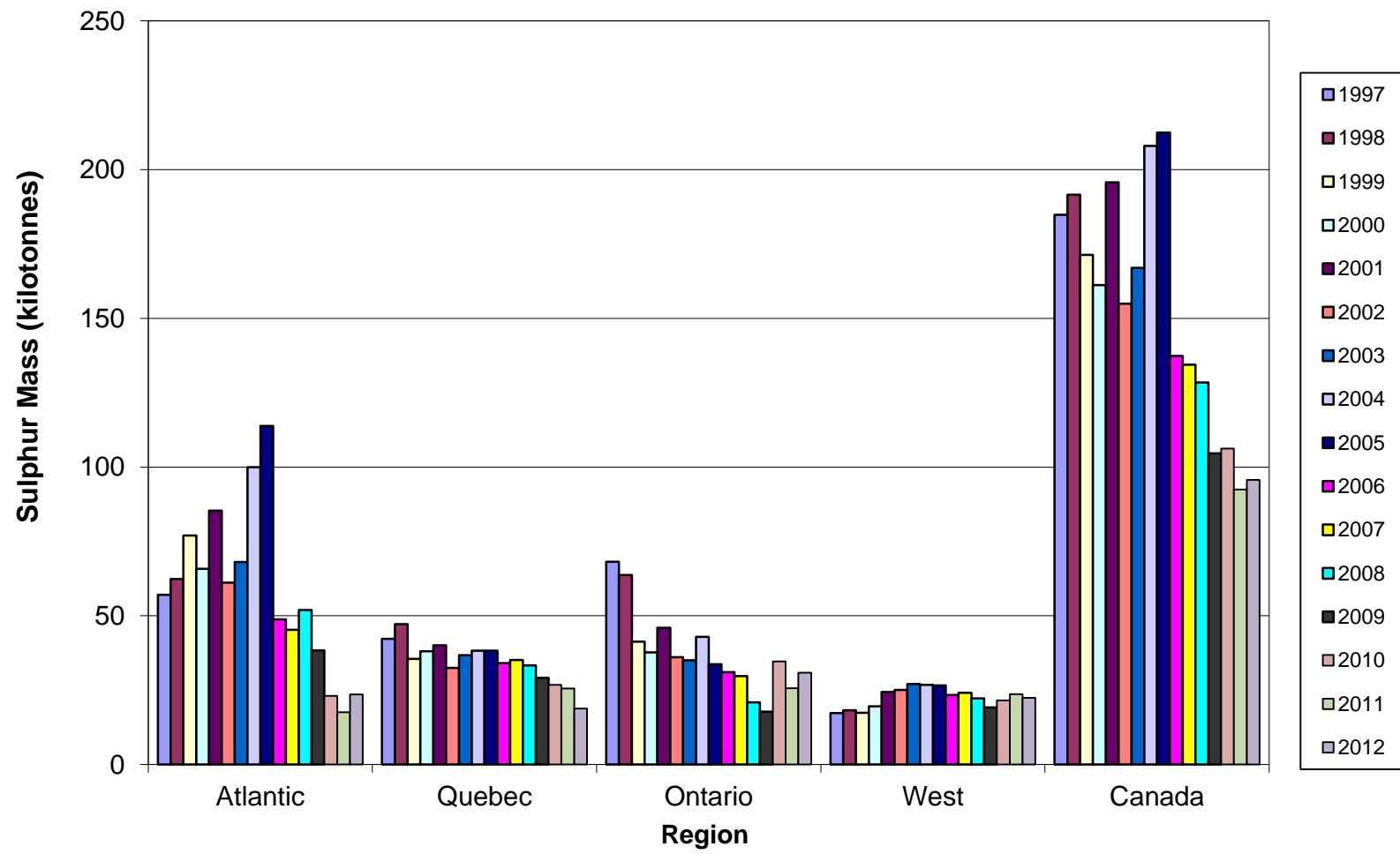


Figure 4.5: Average Sulphur Levels in Motor and Aviation Gasoline by Region, 1995-2012

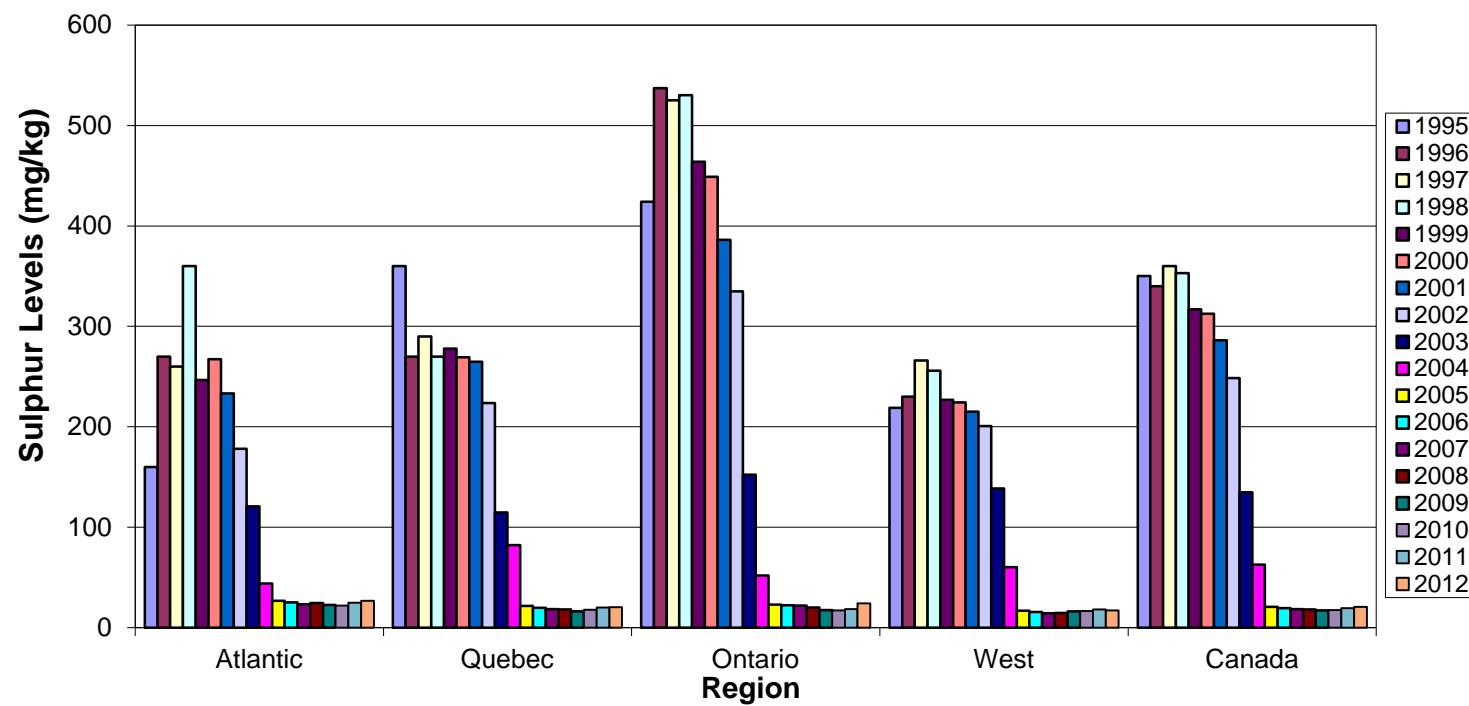


Figure 4.6a: Average Sulphur in Motor Gasoline by Petroleum Refinery/Importer in 2010

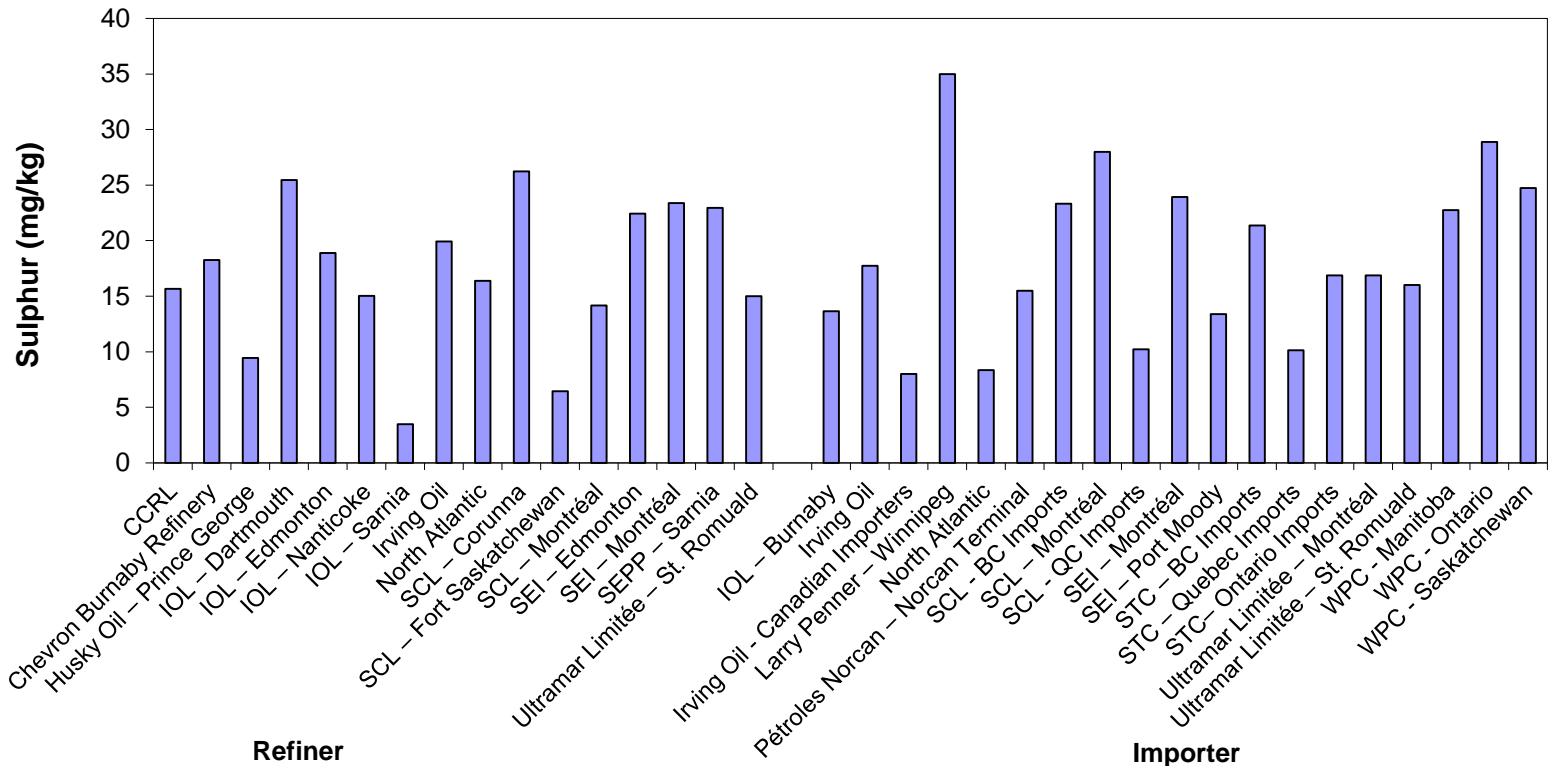
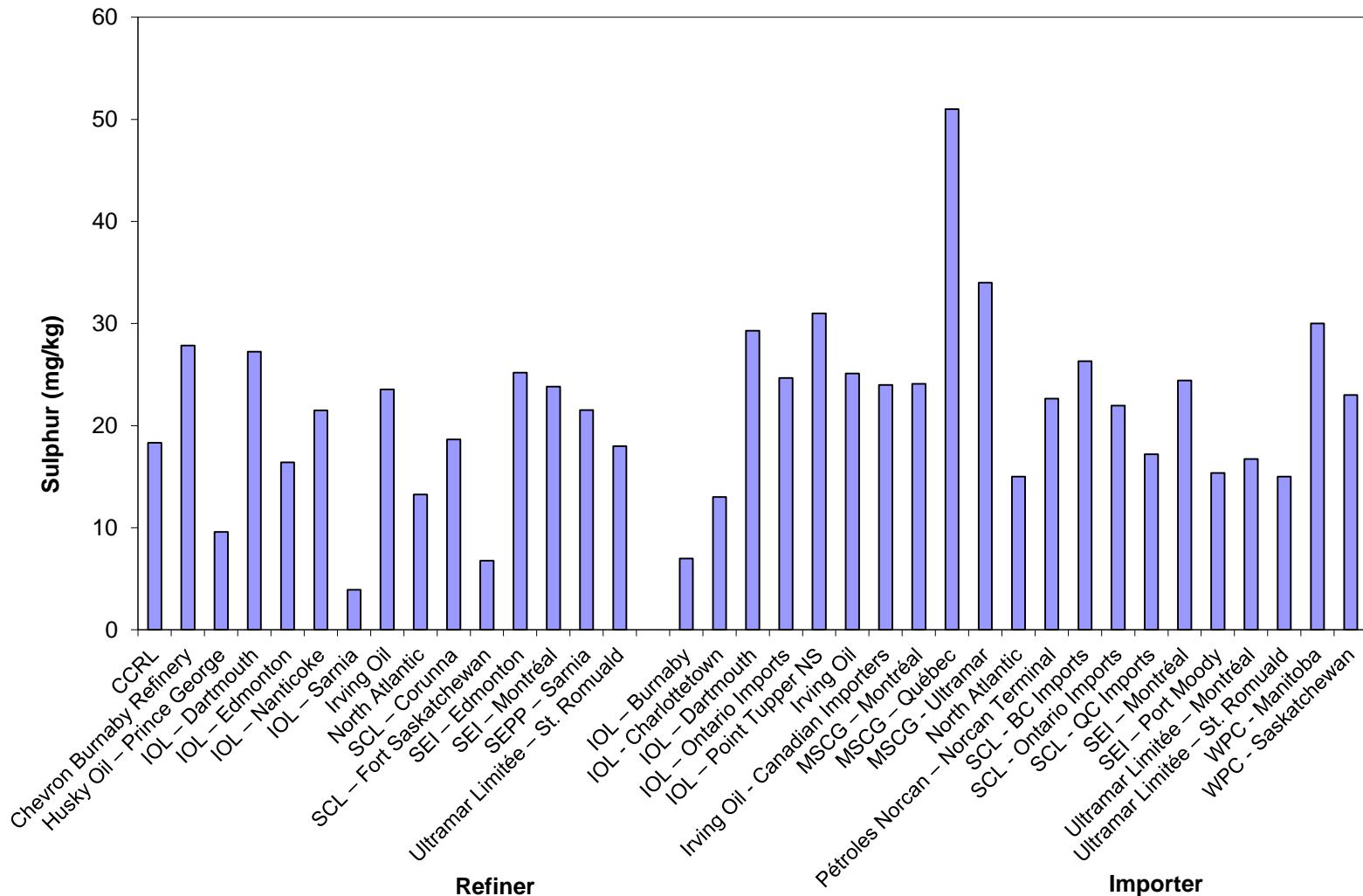


Figure 4.6b: Average Sulphur Levels in Motor Gasoline by Petroleum Refinery/Importer in 2011



Note: MSCG – Montréal, MSCG – Québec and MSCG – Ultramar were combined under the *Sulphur in Gasoline Regulations*. Thus, the combined volume weighted average was compliant with the sulphur limits under the *Sulphur in Gasoline Regulations*.

Figure 4.6c: Average Sulphur Levels in Motor Gasoline by Petroleum Refinery/Importer in 2012

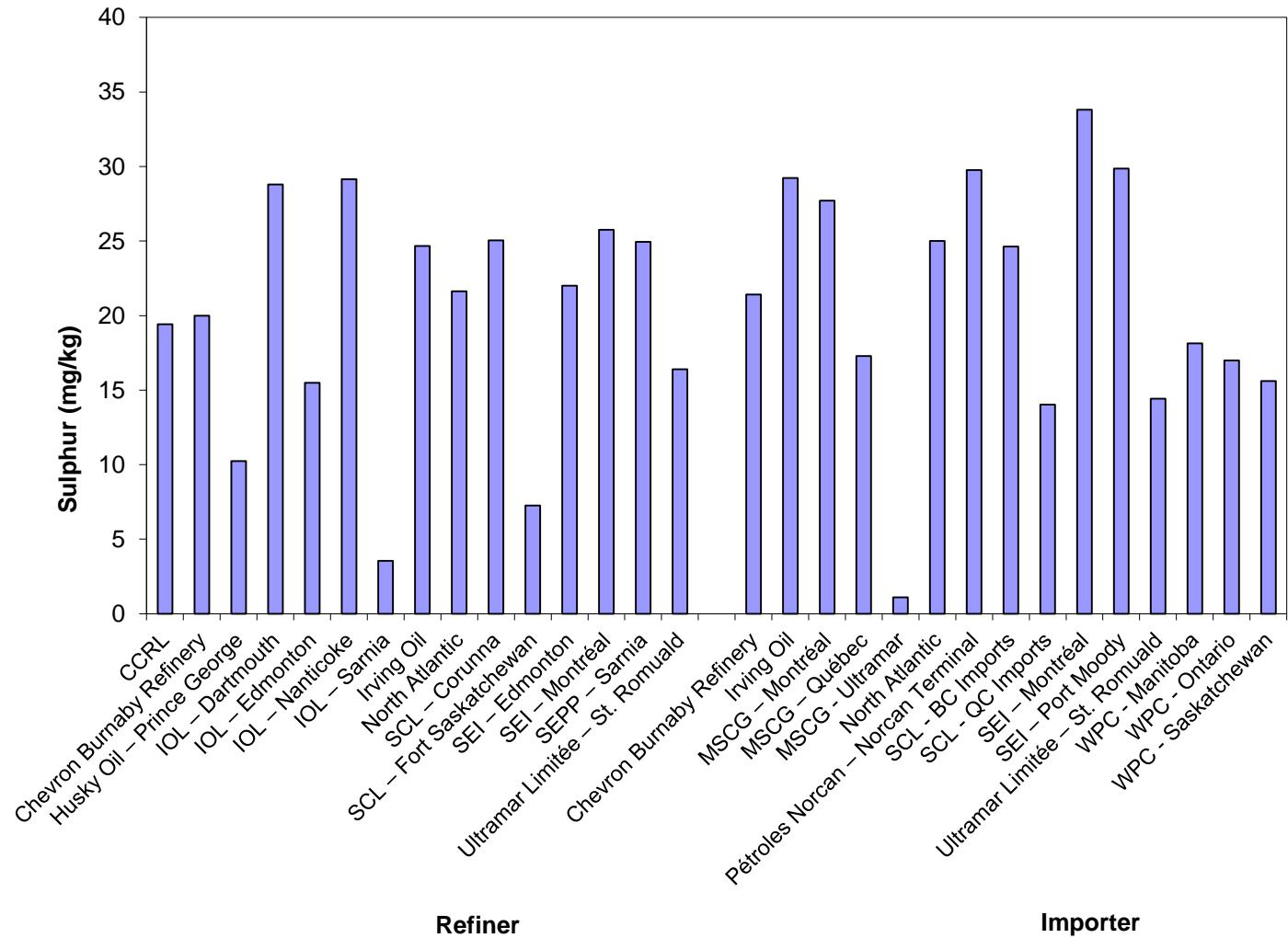


Figure 4.7a: Average Sulphur Levels in Ultra-Low-Sulphur Diesel Fuel by Petroleum Refinery and Importer in 2010

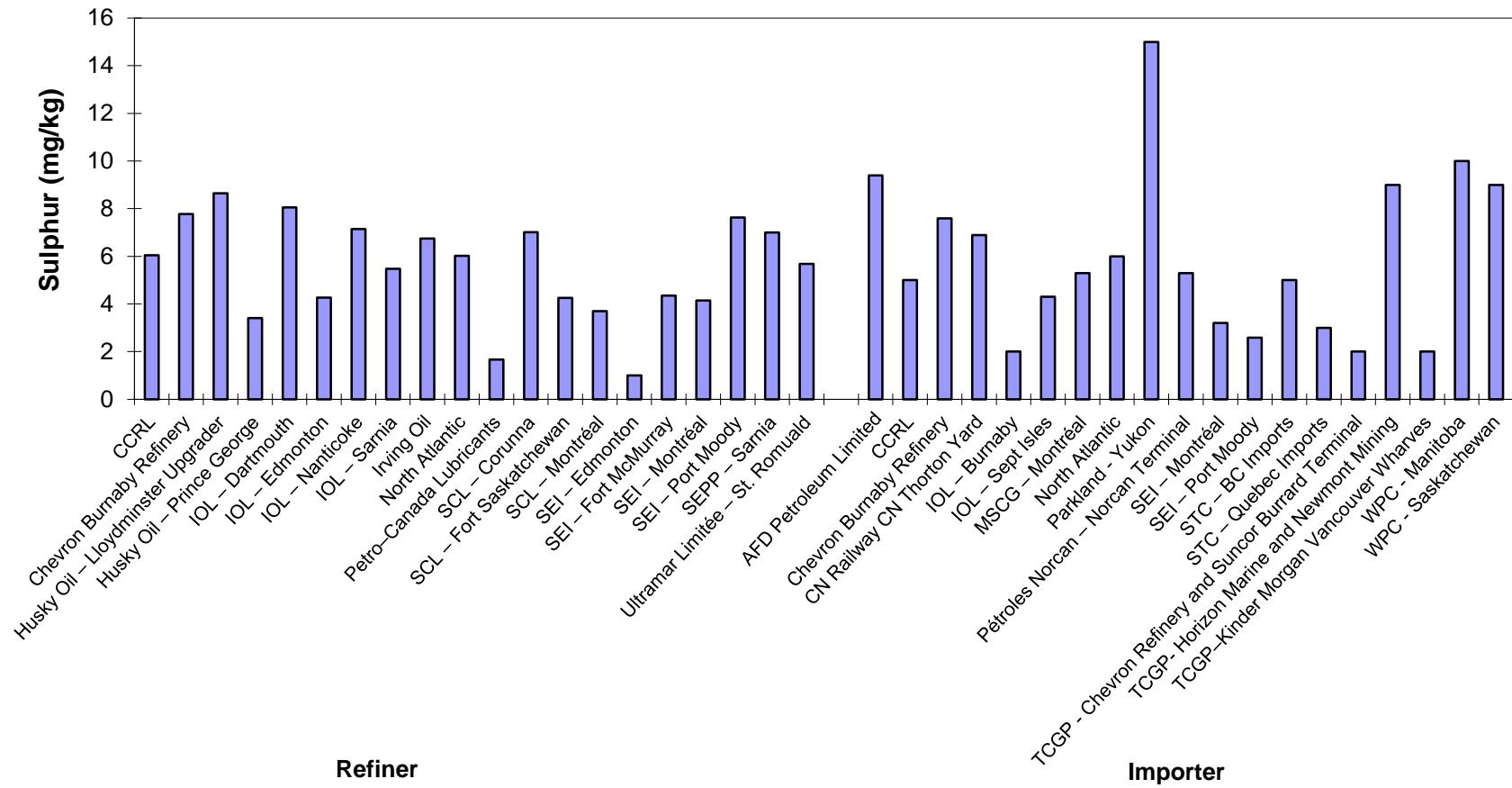


Figure 4.7b: Average Sulphur Levels in Ultra-Low-Sulphur Diesel Fuel by Petroleum Refinery and Importer in 2011

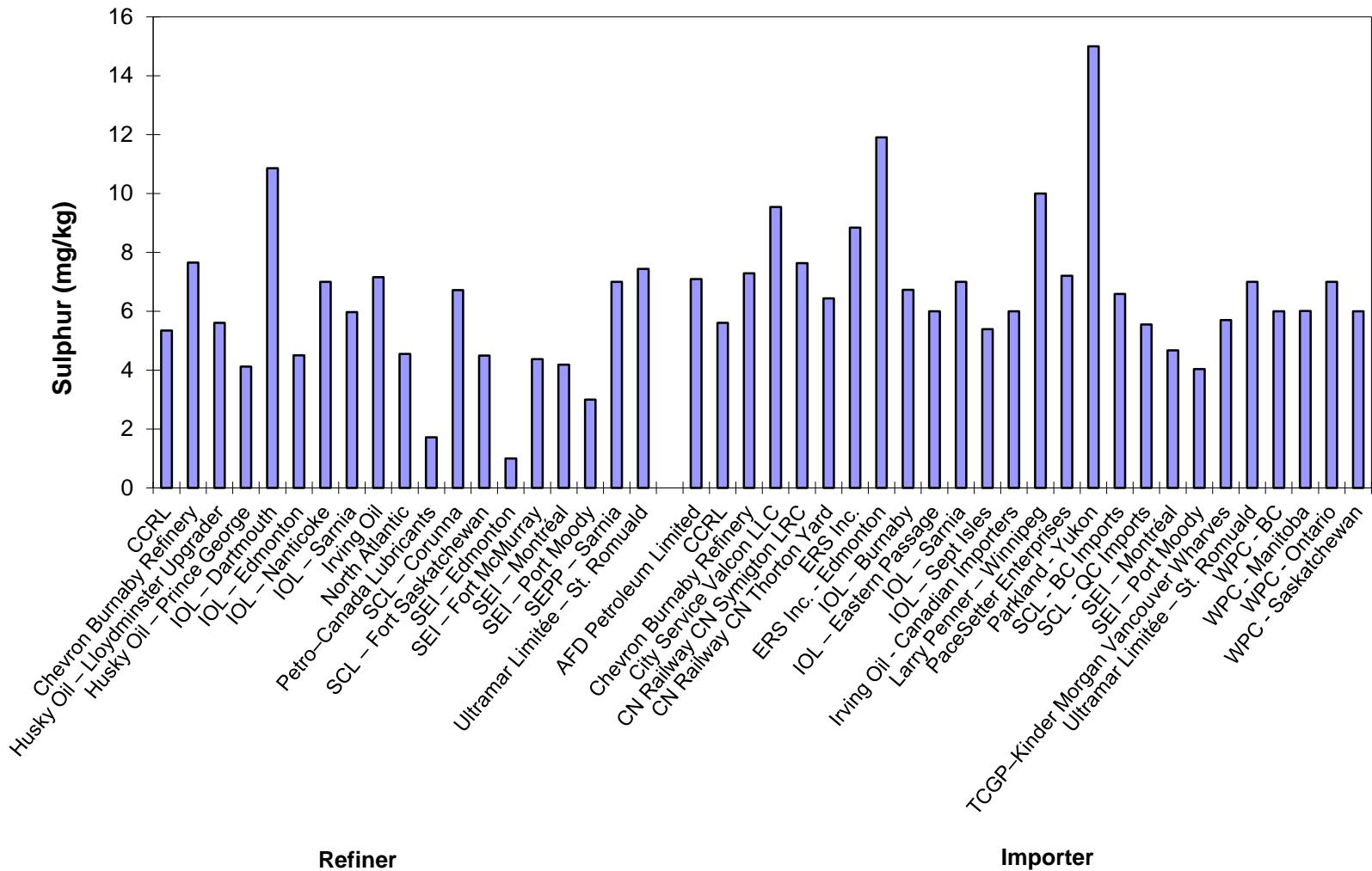


Figure 4.7c: Average Sulphur Levels in Low-Sulphur Diesel Fuel by Petroleum Refinery and Importer in 2012

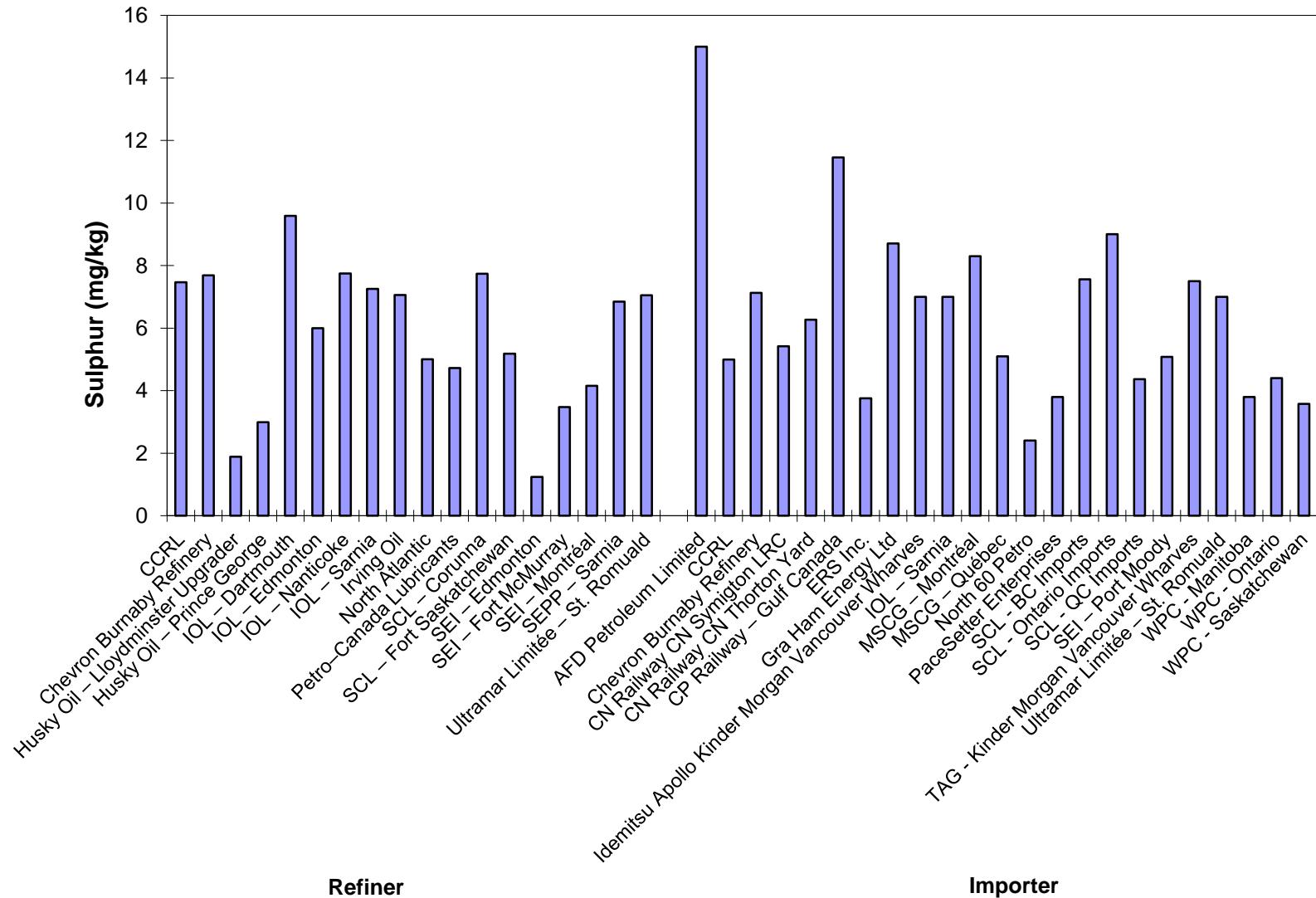


Figure 4.8a: Average Sulphur Levels in Low-Sulphur Diesel Fuel by Petroleum Refinery and Importer in 2010

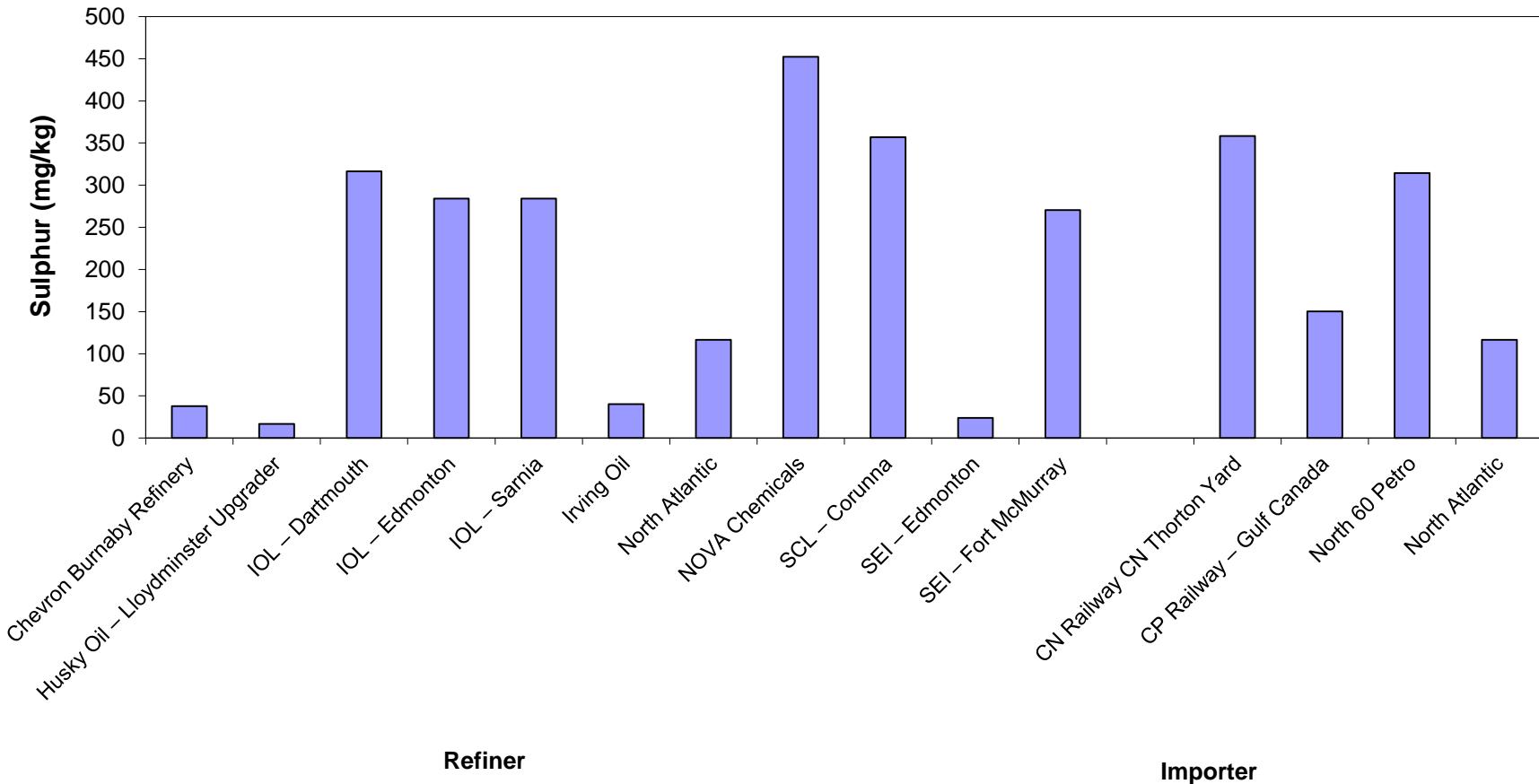


Figure 4.8b: Average Sulphur Levels in Low-Sulphur Diesel Fuel by Petroleum Refinery and Importer in 2011

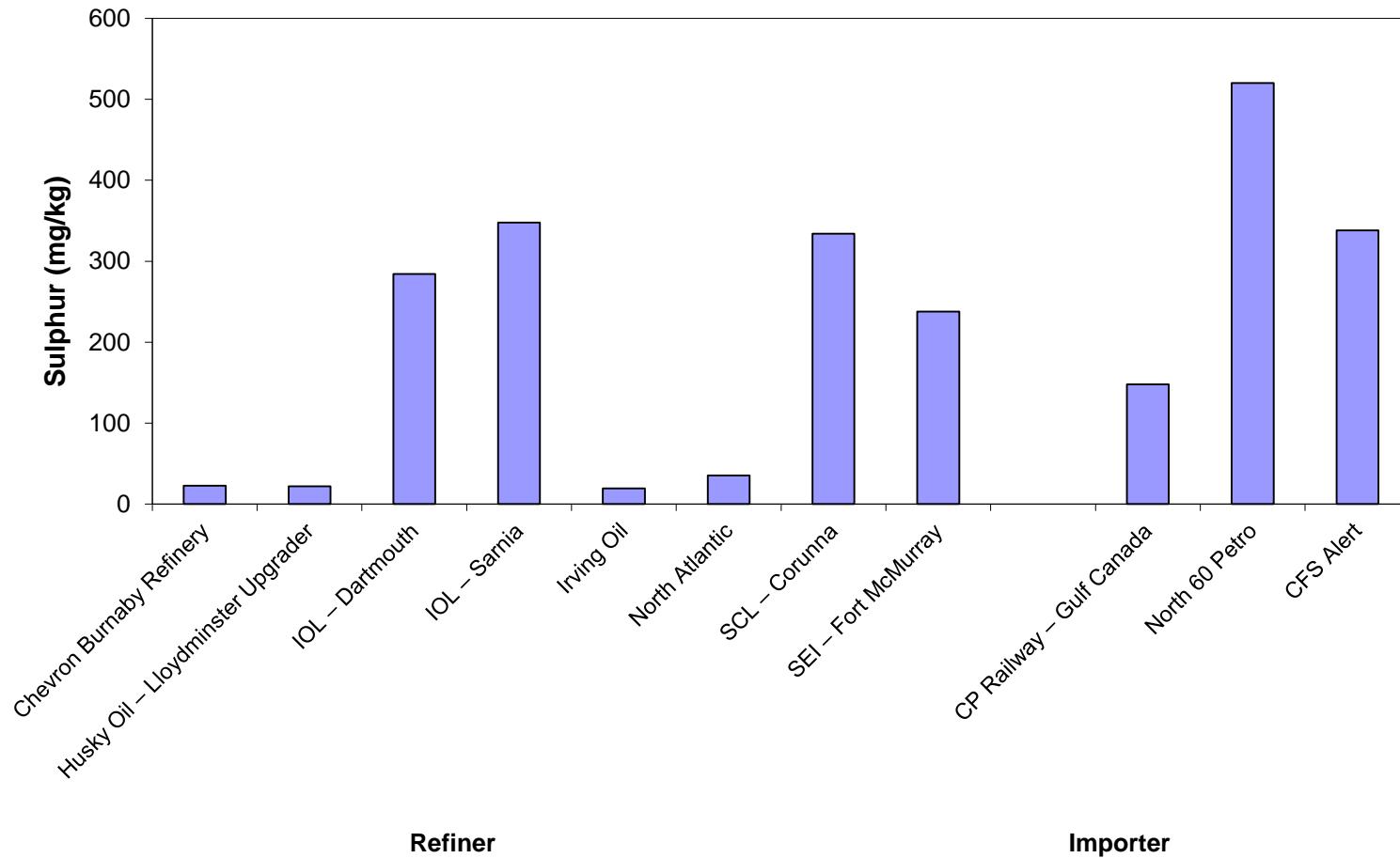


Figure 4.8c: Average Sulphur Levels in Low-Sulphur Diesel Fuel by Petroleum Refinery and Importer in 2012

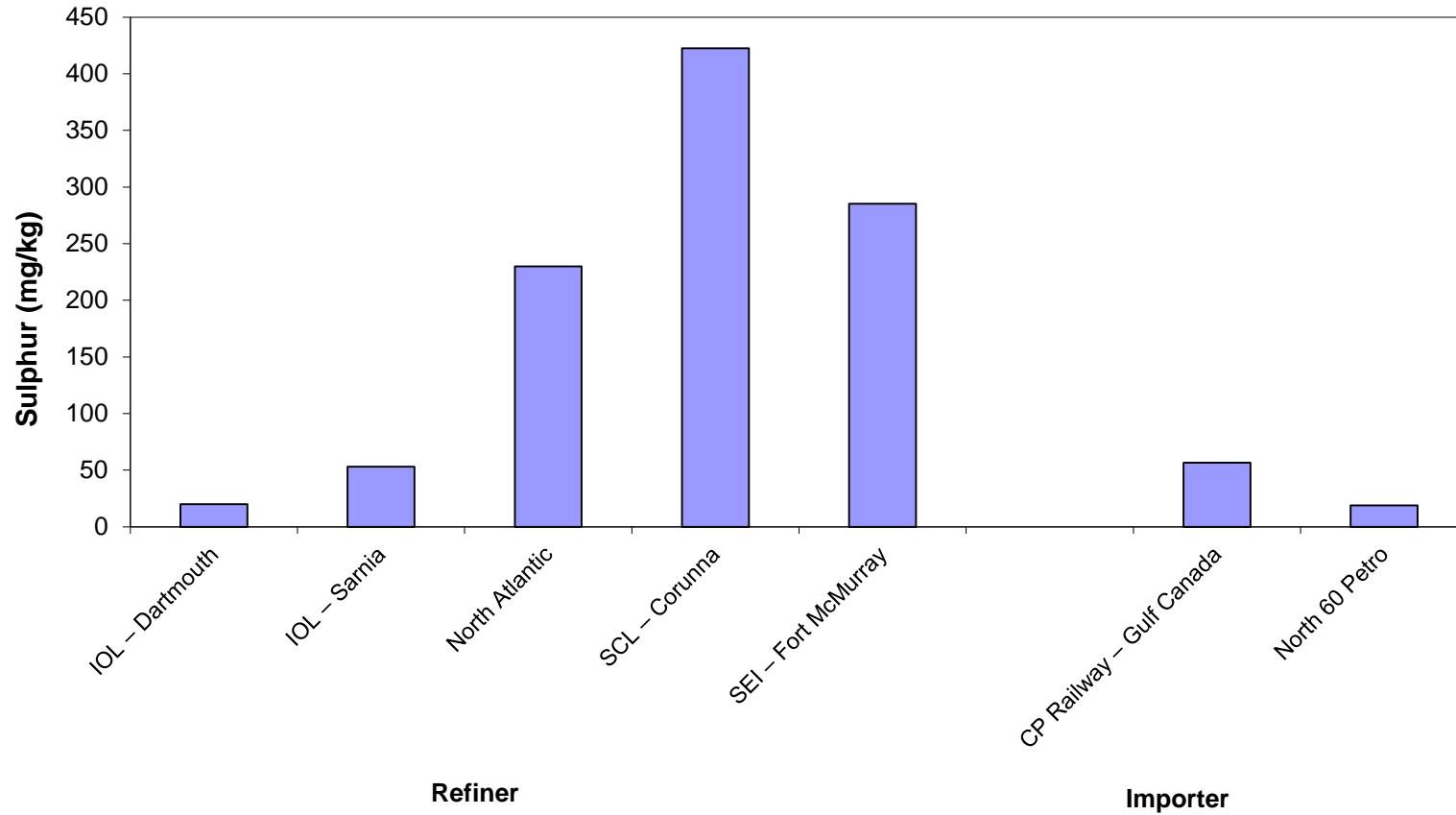


Figure 4.9: National Trend of Sulphur Content in Aviation Turbo Fuel, 1995-2012

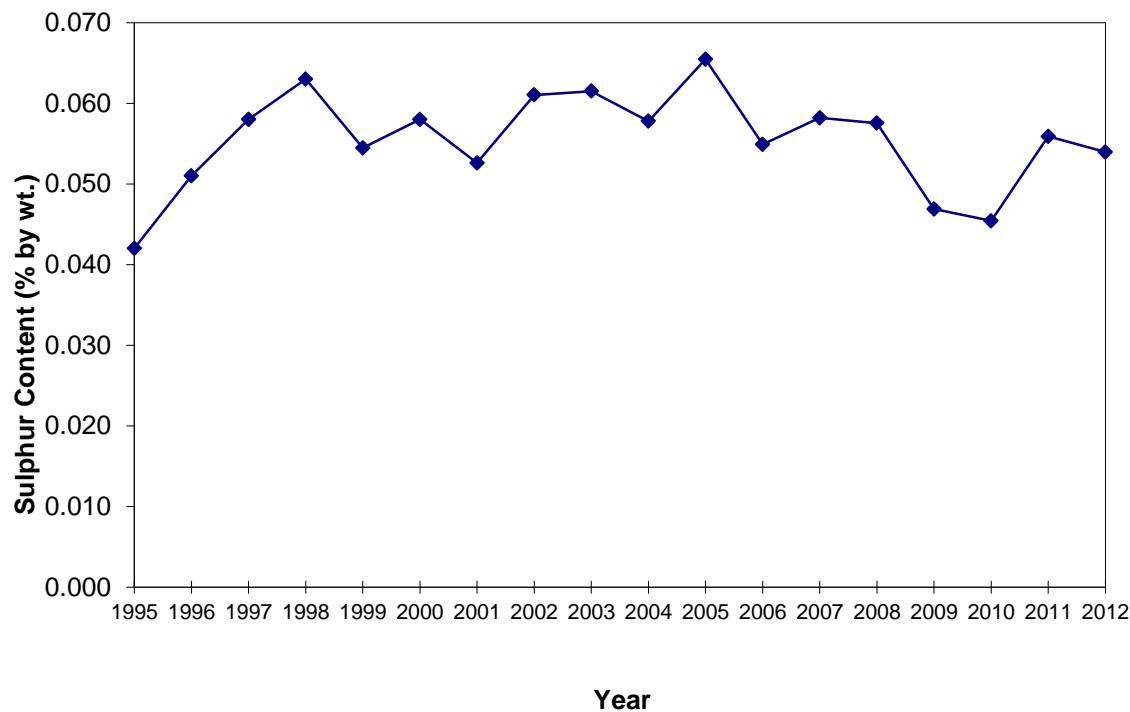


Figure 4.10: National Trend of Sulphur Content in Motor/Aviation Gasoline, 1995-2012

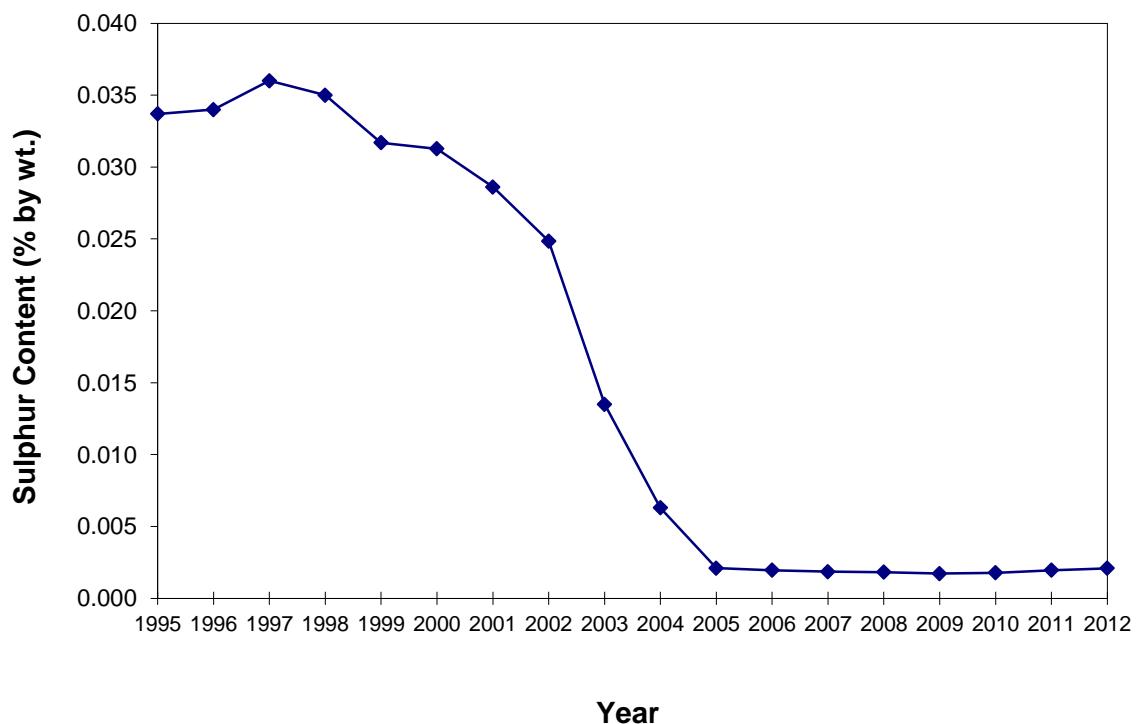


Figure 4.11: National Trend of Sulphur Content in Kerosene/Stove Oil, 1995-2012

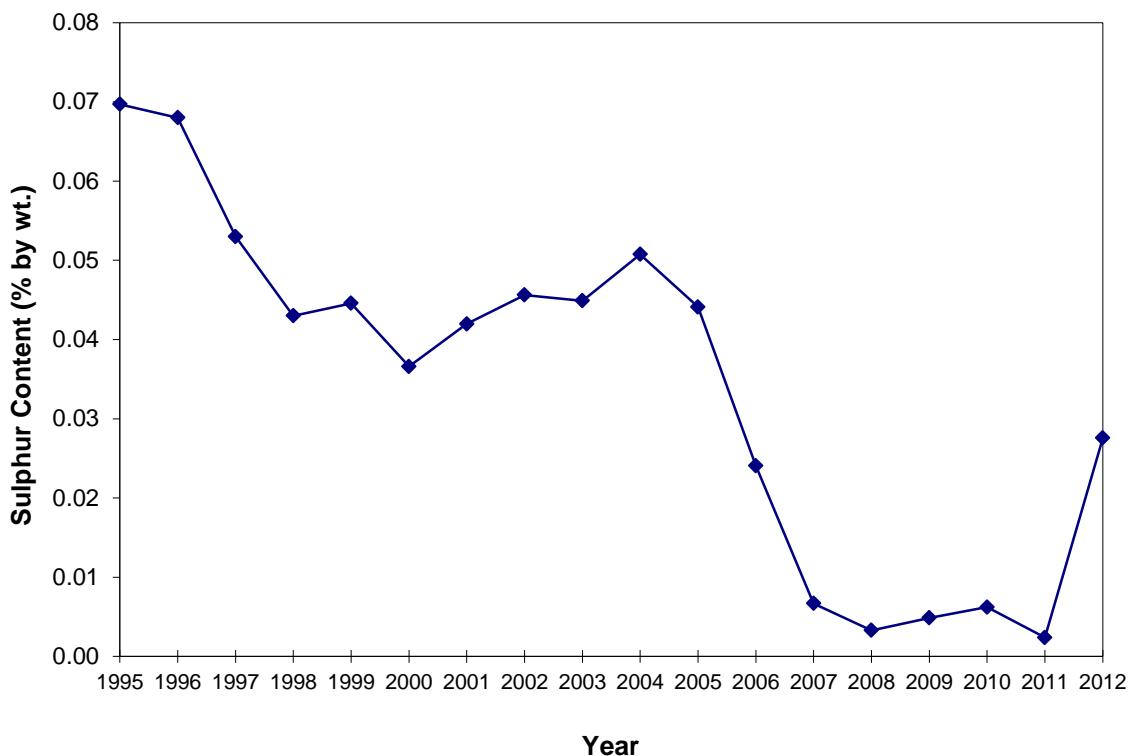


Figure 4.12: National Trend of Sulphur Content in Diesel Fuel (Total Pool), 1995-2012

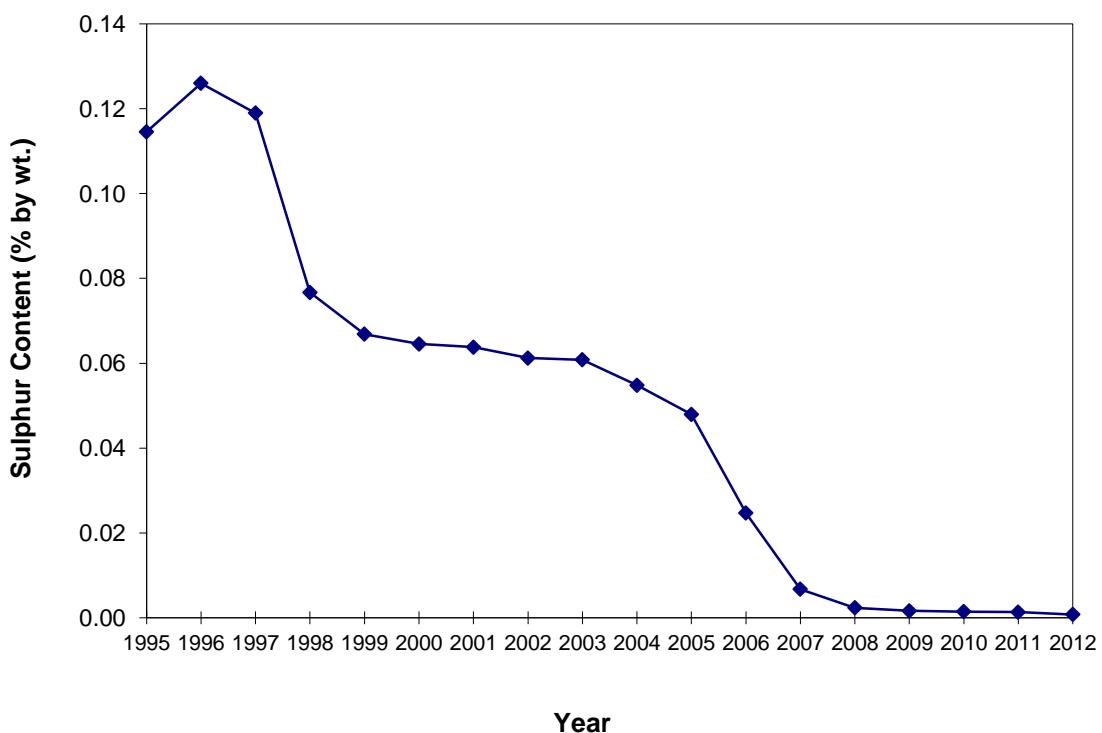


Figure 4.13: National Trend of Sulphur Content in Light Fuel Oil, 1995-2012

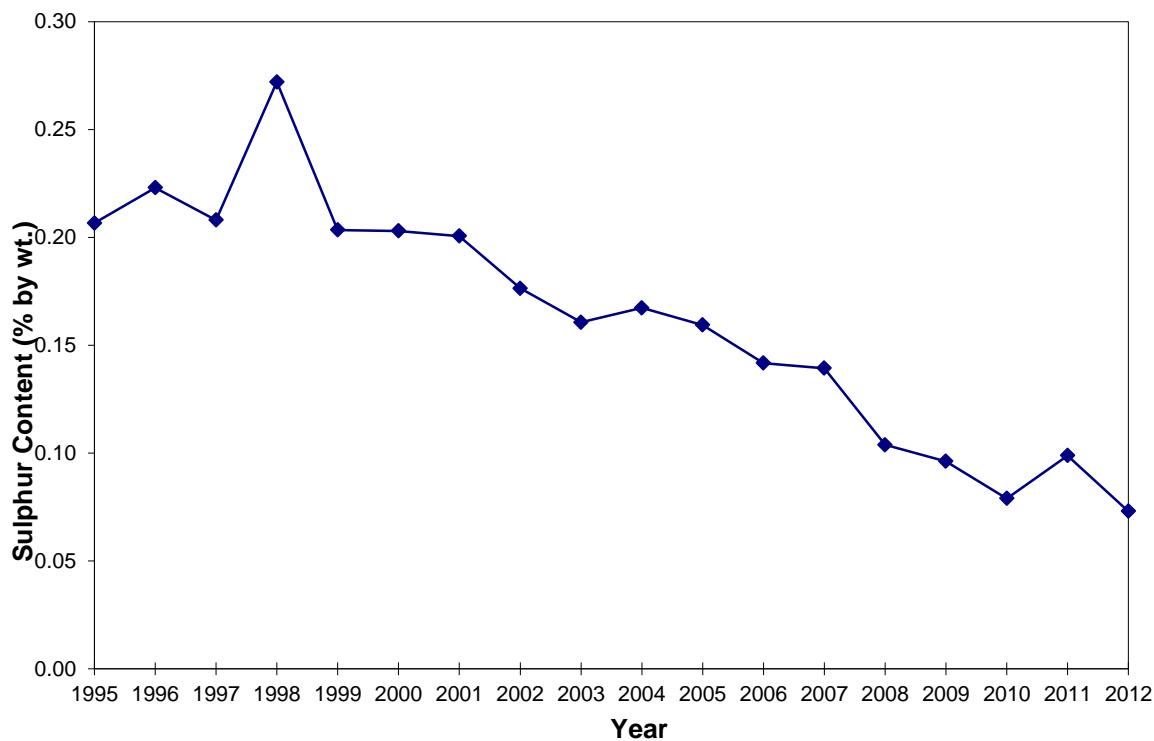
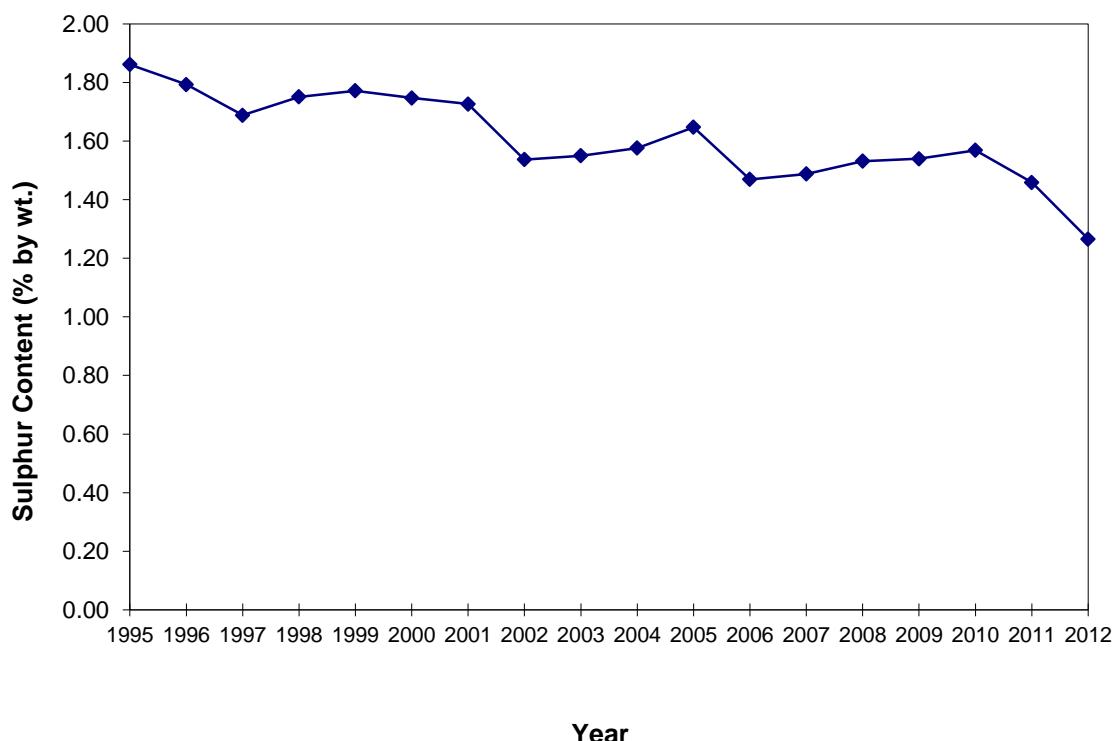


Figure 4.14: National Trend of Sulphur Content in Heavy Fuel Oil, 1995-2012



5 Conclusion

This report summarizes the data on the sulphur content in liquid fuels originating from crude oils, coal or bituminous sand for 2010-2012. The information was provided to Environment Canada by producers and importers of liquid fuels pursuant to the federal *Fuels Information Regulations*, No. 1 of the *Canadian Environmental Protection Act, 1999*. When data gaps were presented, information was taken from data submitted pursuant to the *Sulphur in Diesel Fuel Regulations* and the *Sulphur in Gasoline Regulations*. As part of their enforcement activities, enforcement officers conduct inspections and investigations into alleged exceedances under the *Sulphur in Gasoline Regulations* and the *Sulphur in Diesel Fuel Regulations*, in accordance with the Compliance and Enforcement Policy for the *Canadian Environmental Protection Act, 1999*. All information reported and subsequent verifications indicate that there were no issues with the prescribed sulphur limits under the *Sulphur in Gasoline Regulations* and the *Sulphur in Diesel Fuel Regulations*.

Appendix A: Environment Canada's Fuels Regulations

Environment Canada administers the following fuels regulations:

- Fuels Information Regulations, No. 1
- Gasoline Regulations
- Contaminated Fuels Regulations
- Benzene in Gasoline Regulations
- Sulphur in Gasoline Regulations
- Gasoline and Gasoline Blend Dispensing Flow Rate Regulations
- Sulphur in Diesel Fuel Regulations
- Regulations Prescribing Circumstances for Granting Waivers Pursuant to Section 147 of the Act
- Renewable Fuels Regulations

Details regarding these regulations, including regulatory text, guidance materials, reporting forms, and regulatory updates, are available at the following webpage:

www.ec.gc.ca/energie-energy/default.asp?lang=En&n=EE068DA8-1

Appendix B: Sample Forms for Reporting Sulphur Content under the Fuels Information Regulations, No. 1, Sulphur in Gasoline Regulation, and Sulphur in Diesel Fuel Regulations

Current forms are available at:

<http://www.ec.gc.ca/energie-energy/default.asp?lang=En&n=C8507F9B-1>

FUELS INFORMATION REGULATIONS, NO. 1

REPORT ON SULPHUR CONTENT OF LIQUID FUELS (Form 1) FUELS INFORMATION REGULATION No1 (s.4)

QUARTER: _____ YEAR: _____

This report should be:

- a) submitted for each quarter of the calendar year on or before January 31st of each year following the end of the calendar year during which the fuel was produced or imported;
- b) submitted by every person who during the calendar year has produced or imported over 400 cubic meters of liquid fuels for use in Canada;
- c) for the purpose of informing the Minister of Environment;
- d) mailed to the appropriate regional office (please refer to the "Headquarter & Regional Offices" list at section "Contacts List" of the CD for the appropriate address).

This form is provided for your convenience. Please refer to the *Fuels Information Regulations, No.1* for information on requirements.

FUELS PRODUCED OR IMPORTED FOR USE OR SALE IN CANADA

COMPANY						
FACILITY NAME:						
FACILITY ADDRESS:						
NAME OF LIQUID FUEL	VOLUME (m ³)		DENSITY (kg/m ³) or API	SULPHUR CONTENT (WEIGHT %)		
	PRODUCED	IMPORTED		Highest	Lowest	Weighted Average
1. AVIATION TURBO FUEL 1.1 Jet A 1.2 Jet B						
2. GASOLINE 2.1 Lead Free 2.2 Regular 2.3 Premium						
3. KEROSENE AND STOVE OIL						
4. DIESEL OIL (by type)						
5. NUMBER 2 - LIGHT FUEL OIL						
6. HEAVY FUEL OIL 6.1 NUMBER 4 6.2 NUMBER 5 6.3 NUMBER 6						
7. Synthetic Crude (sold as fuel)						
8. A Fuel other than the fuels named in items 1 to 5						
AUTHORIZED COMPANY OFFICIAL: (PLEASE PRINT)	TITLE:		SIGNATURE			
TELEPHONE NUMBER:	FAX NUMBER:		DATE:			

SULPHUR IN DIESEL FUEL REGULATIONS

As of December 31, 2013, Schedule 1, The Report of Sulphur Concentration in Diesel Fuel, is required to be submitted annually. Prior to this date, Schedule 1 was required to be submitted quarterly. Sample forms for both the annual and quarterly reports are provided on the next pages. Please refer to the *Sulphur in Diesel Fuel Regulations* for more information.

SCHEDULE 1
(Subsection 5(1))

QUARTERLY REPORT OF SULPHUR CONCENTRATION IN DIESEL FUEL

1. Calendar year
2. Quarter
3. Name of producer or importer
4. Name of the facility in Canada producing diesel fuel or the province of import
5. Street address (and mailing address if different) of the facility in Canada producing diesel fuel or of the importer's place of business in Canada

6. Volume of diesel fuel, in m³, and sulphur concentration, in mg/kg

Diesel Fuel Excluding Biodiesel Fuel and Blends of Biodiesel Fuel and Diesel Fuel	Biodiesel Fuel	Blends of Biodiesel Fuel and Diesel Fuel
<p>(a) Diesel fuel with a concentration of sulphur that was less than or equal to 15mg/kg</p> <p>(i) Volume of diesel fuel</p> <p>(ii) Highest sulphur concentration</p> <p>(iii) Lowest sulphur concentration</p> <p>(iv) Volume-weighted average sulphur concentration</p> <p>(v) Method used (for reporting purposes) to measure sulphur concentration</p>		
<p>(b) Diesel fuel with a concentration of sulphur that exceeded 15mg/kg and was less than or equal to 500 mg/kg</p> <p>(i) Volume of diesel fuel</p> <p>(ii) Highest sulphur concentration</p> <p>(iii) Lowest sulphur concentration</p> <p>(iv) Volume-weighted average sulphur concentration</p> <p>(v) Method used (for reporting purposes) to measure sulphur concentration</p>		

Diesel Fuel Excluding Biodiesel Fuel and Blends of Biodiesel Fuel and Diesel Fuel	Biodiesel Fuel	Blends of Biodiesel Fuel and Diesel Fuel
(c) Diesel fuel with a concentration of sulphur that exceeded 500 mg/kg		
(i) Volume of diesel fuel		
(ii) Highest sulphur concentration		
(iii) Lowest sulphur concentration		
(iv) Volume-weighted average sulphur concentration		
(v) Method used (for reporting purposes) to measure sulphur concentration		

7. Authorized official

Name _____

Title _____

Signature and date _____

Telephone number: ()

Fax number: ()

SCHEDULE 1
(Subsection 5(1))
ANNUAL REPORT OF SULPHUR CONCENTRATION IN DIESEL FUEL

Please send to Environment Canada's Headquarters office (Regulations Administration – Reports and Notices; Fuels Section; Oil, Gas and Alternative Energy Division; Environment Canada; 12th Floor; 351 St. Joseph Blvd.; Gatineau QC; K1A 0H3; Fax: 819-420-7410; FUELS-CARBURANTS@ec.gc.ca).

- 1.** Calendar year:
- 2.** Quarter: *no longer applicable since reporting is now on an annual basis*
- 3.** Name of producer or importer:
- 4.** Name of the facility in Canada at which the diesel fuel is produced or the province into which it is imported:
- 5.** Civic address (and mailing address if different) of the facility in Canada at which the diesel fuel is produced or the importer's principal place of business in Canada
- 6.** Volume of diesel fuel in m³ for each type of fuel, and sulphur concentration in mg/kg:

Required Information	Diesel Fuel Excluding Biomass-based Diesel Fuel and Blends of Biomass-based Diesel Fuel and Diesel Fuel	Biomass-based Diesel Fuel	Blends of Biomass-based Diesel Fuel and Diesel Fuel
(a) Diesel fuel with a concentration of sulphur that was less than or equal to 15 mg/kg			
(i) Volume of diesel fuel			
(ii) Highest sulphur concentration			
(iii) Lowest sulphur concentration			
(iv) Volume-weighted average sulphur concentration			
(v) Method used (for reporting purposes) to measure sulphur concentration			

Continued on next page

(b) Diesel fuel with a concentration of sulphur that exceeded 15 mg/kg but less than or equal to 1 000 mg/kg			
(i) Volume of diesel fuel			
(ii) Highest sulphur concentration			
(iii) Lowest sulphur concentration			
(iv) Volume-weighted average sulphur concentration			
(v) Method used (for reporting purposes) to measure sulphur concentration			
(c) Diesel fuel with a concentration of sulphur that exceeded 1 000 mg/kg			
(i) Volume of diesel fuel			
(ii) Highest sulphur concentration			
(iii) Lowest sulphur concentration			
(iv) Volume-weighted average sulphur concentration			
(v) Method used (for reporting purposes) to measure sulphur concentration			

7. Authorized official

Name

Title

Signature and date:

Telephone number:

Fax number:

**ANNUAL REPORT ON VOLUMES AND SULPHUR LEVEL
SULPHUR IN GASOLINE REGULATIONS (s.4 & 6(2))**

This report should be:

- a) submitted by each primary supplier that produces or imports gasoline identified as low-sulphur gasoline, California gasoline or gasoline-like blend stock as identified under section 5 of the Regulations;
- b) submitted for each refinery and blending facility at which the primary supplier produced the gasoline, for each province into which it imported the gasoline and for each combination which it elected under section 9 of the Regulations;
- c) submitted annually, on or before February 15 of the year following the year for which the report is prepared;
- d) **sent to Environment Canada's Headquarter office** (Regulations Administration – Reports and Notices Fuels Section; Oil, Gas and Alternative Energy Division; Environment Canada; 12th Floor; 351 St. Joseph Blvd.; Gatineau QC; K1A 0H3; Fax: 819-420-7410; FUELS-CARBURANTS@ec.gc.ca).

This form is provided for your convenience. Please refer to the *Sulphur in Gasoline Regulations* for information on requirements.

Registration Number under the <i>Benzene in Gasoline Regulations</i>	Year
Company name	
Company address	

Type of primary supplier (check one or more): Producer at a refinery Producer at a blending facility Importer

Which method has been elected to meet the Sulphur limit? Pool Average OR Flat

Name and location of the refinery, blending facility or points of importation in the province, covered by this report:

	Annual Volume		Flat Limit	Pool Average	
	Type of Gasoline	PRODUCED (m ³)		Maximum S Concentration in Gasoline (mg/kg)	Maximum S Concentration in Gasoline (mg/kg)
1. Low Sulphur Gasoline					
2. California Gasoline				NOT REQ'D	NOT REQ'D
3. Gasoline-Like Blendstock			NOT REQ'D	NOT REQ'D	NOT REQ'D

Authorized Official	Telephone No. () -
Title	Fax No. () -
Signature	Date
Contact Name	Contact Telephone No. () -

Appendix C: Addresses of Environment Canada's Regional Offices and Headquarters

<p>Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick</p> <p>Regional Director Enforcement Branch – Atlantic Environment Canada 45 Alderney Drive Queen Square, 16th Floor Dartmouth NS B2Y 2N6</p> <p>Attention: Bruce Birch</p> <p>Fax: 506-452-3173 Email: bruce.birch@ec.gc.ca</p>	<p>Manitoba, Saskatchewan, Alberta, Northwest Territories and Nunavut</p> <p>Regional Director Enforcement Branch – Prairie and Northern Environment Canada Eastgate Offices 9250 – 49th Street Edmonton AB T6B 1K5</p> <p>Attention: Tim Pitman</p> <p>Fax: 780-495-2451 Email: Enforcement-PNR@EC.gc.ca</p>
<p>Quebec</p> <p>Regional Director Enforcement Branch – Quebec Environment Canada 105 McGill Street, 3rd Floor Montréal QC H2Y 2E7</p> <p>Attention : Sébastien Thériault</p> <p>Fax: 418-648-7673 Email: sebastien.theriault@ec.gc.ca</p>	<p>British Columbia and Yukon</p> <p>Regional Director Enforcement Branch – Pacific and Yukon Environment Canada 401 Burrard Street, Suite 201 Vancouver BC V6C 3S5</p> <p>For British Columbia: Attention: Alain Gauthier Fax: 604-666-9509 Email: fuels-carburants.pyr@ec.gc.ca</p> <p>For Yukon : Attention : Travis Teel Fax: 604-666-9059 Email: fuels-carburants.pyr@ec.gc.ca</p>
<p>Ontario</p> <p>Regional Director Enforcement Branch – Ontario Environment Canada 845 Harrington Court, Unit #3 Burlington ON L7N 3P3</p> <p>Attention: Rebecca Nowak</p> <p>Fax: 905-333-3952 Email: Rebecca.nowak@ec.gc.ca and EnvironmentalEnfocementOntario@ec.gc.ca.</p>	<p>ADDRESS FOR ENVIRONMENT CANADA HEADQUARTERS</p> <p>Fuels Section Oil, Gas and Alternative Energy Division Environment Canada 351 St. Joseph Boulevard, 12th Floor Gatineau QC K1A 0H3 Fax: 819-420-7410 Email: fuels-carburants@ec.gc.ca</p>

Appendix D: Volume-Weighted Annual Sulphur Levels by Refiner or Importer, 1995-2012

Table D.1a: Volume-Weighted Annual Sulphur Levels in Motor Gasoline, 1995-2012

	Name	Province/ State	Sulphur Levels (mg/kg)																	
			1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Refiner	CCRL	SK	97	179	103	148	187	242	197	178	163	68	20	18	18	16	17	16	18	19
	Chevron Burnaby Refinery	BC	215	273	294	246	199	174	171	213	118	132	18	24	25	25	23	18	28	20
	Husky Oil – Prince George	BC	183	261	225	282	170	248	239	242	143	108	33	8	3	2	12	9	10	10
	IOL – Dartmouth	NS	365	419	374	491	329	382	356	265	165	28	25	26	22	29	25	25	27	29
	IOL – Edmonton	AB	239	243	346	297	272	252	302	268	165	30	22	19	17	16	16	19	16	15
	IOL – Nanticoke	ON	340	506	530	529	450	456	376	366	206	21	29	25	21	23	21	15	22	29
	IOL – Sarnia	ON	728	787	712	792	694	693	596	432	191	15	4	5	4	3	3	3	4	4
	Irving Oil	NB	71	35	43	129	96	85	48	50	66	65	29	24	26	21	19	20	24	25
	North Atlantic	NL	38	75	118	76	55	47	49	58	29	25	30	9	5	10	20	16	13	22
	Parkland	AB	-	1	1	4	4	8	4	-	-	-	-	-	-	-	-	-	-	-
	PC – Edmonton	AB	360	380	394	377	311	311	250	202	168	81	11	13	11	15	-	-	-	-
	PC – Montréal	QC	472	356	387	316	367	292	320	275	218	25	21	20	20	18	-	-	-	-
	PC – Oakville	ON	528	489	519	514	523	479	396	305	133	138	24	-	-	-	-	-	-	-
	Robbins Feed and Fuel	ON	-	-	-	137	271	239	307	222	120	104	33	-	-	-	-	-	-	-
	SCL – Corunna	ON	553	579	582	567	453	466	462	399	53	58	28	24	29	27	22	26	19	25
	SCL – Fort Saskatchewan	AB	50	50	50	50	50	50	49	50	7	10	12	5	5	5	8	6	7	7
	SCL – Montréal	QC	392	319	333	312	269	318	280	231	38	33	19	15	16	15	15	14	-	-
	SEI – Edmonton	AB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	22	25	22
	SEI – Montréal	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	19	23	24	26	-
	SEPP – Sarnia	ON	368	276	298	301	209	192	180	196	157	47	21	28	29	21	19	23	22	25
	Ultramar Limitée - Montréal	QC	-	-	-	-	-	-	-	155	95	75	27	29	25	19	-	-	-	-
	Ultramar Limitée – St. Romuald	QC	219	174	186	171	173	218	212	188	105	152	18	18	17	19	16	15	18	16

		Sulphur Levels (mg/kg)																			
	Name	Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Importer	BP Cherry Point	Washington	-	-	-	70	103	105	110	100	-	-	-	-	-	-	-	-	-	-	
	Chevron Burnaby Refinery		BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	
	Delta Western Fuel (Totem Oil)		YT	-	-	-	610	73	236	-	-	-	-	-	-	-	-	-	-	-	
	Ford Motor Company		ON	-	-	-	-	28	22	28	15	-	-	-	-	-	-	-	-	-	
	Husky Oil - Prince George		BC	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	
	IOL - Burnaby		BC	-	-	-	210	-	-	63	63	-	74	11	15	8	10	14	14	7	
	IOL - Charlottetown		NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	
	IOL - Dartmouth		NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	-	
	IOL - Ontario Imports		ON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	
	IOL - Point Tupper NS		NS	-	-	-	-	-	-	-	-	-	-	74	-	-	-	-	31	-	
	IOL - Quebec City		QC	-	-	-	-	340	-	-	-	-	-	-	-	-	-	-	-	-	
	Irving Oil		NB	71	35	43	129	96	85	48	50	-	-	-	25	25	20	18	18	25	29
	Irving Oil - Canadian Importers		NB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	24	-
	Larry Penner - Winnipeg		MB	-	-	-	-	-	-	-	-	-	-	-	-	-	36	35	-	-	
	Mackenzie		YT	-	-	-	170	301	280	234	234	-	-	-	-	-	-	-	-	-	
	MSCG - Montréal		QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	28	
	MSCG - Quebec		QC	-	-	-	-	-	-	-	-	-	-	-	23	2	-	-	51	17	
	MSCG - Ultramar Limitée		QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	1	
	Murphy Oil USA	Wisconsin	-	-	-	540	430	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Neste - Beauport		QC	-	-	-	-	-	386	400	-	103	-	-	-	-	-	-	-	-	
	Neste - Montréal		QC	-	-	-	-	-	361	222	-	103	-	-	-	-	-	-	-	-	
	North Atlantic		NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	15	25	
	Northern Transportation - Iqaluit		NU	-	-	-	100	310	107	743	43	-	-	-	-	-	-	-	-	-	
	Olco - Beauport	ON	QC	-	-	-	-	-	-	-	-	-	421	26	7	-	-	-	-	-	
	Olco - Hamilton		ON	-	-	-	410	540	394	317	307	-	-	-	-	-	-	-	-	-	
	Olco - Montréal		QC	-	-	-	-	-	-	-	-	20	-	-	1	-	-	-	-	-	
	Olco - Québec		QC	-	-	-	457	511	299	-	-	-	-	-	-	-	-	-	-	-	
	PaceSetter Enterprises		YT	-	-	-	-	246	220	-	-	-	-	-	-	-	-	-	-	-	
	Parkland	AB	-	-	-	110	18	18	82	265	-	-	-	-	-	-	-	-	-	-	
	PC - Burrard Products T. - Imports		BC	-	-	-	210	321	-	-	49	114	2	24	10	12	-	-	-	-	
	PC - Montréal	QC	-	-	-	340	360	-	420	315	230	18	20	19	19	18	-	-	-	-	

		Sulphur Levels (mg/kg)																			
	Name	Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Importer	PC - Oakville	ON	-	-	-	610	520	490	368	-	-	75	-	-	-	-	-	-	-	-	
	Pétroles Norcan – Norcan Terminal	QC	-	-	-	470	560	273	243	196	100	145	29	30	24	28	12	15	23	30	
	Robbins Feed and Fuel	ON	-	-	-	140	270	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SCL – BC Imports	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	26	25		
	SCL - Montréal	QC	392	313	333	312	269	318	280	231	63	55	26	-	18	11	-	28	-	-	
	SCL – Ontario Imports	ON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-		
	SCL – Port of Montreal	QC	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-		
	SCL – QC Imports	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	17	14		
	SEI - Montréal	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	24	24	34	
	SEI - Port Moody	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	13	15	30	
	SEPP - CanTerm	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	
	STC – BC Imports	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	17	21	21	-	-	
	STC – Ontario Imports	ON	-	-	-	-	-	-	-	-	-	-	-	-	-	31	-	17	-	-	
	STC – Quebec Imports	QC	-	-	-	-	-	-	-	-	-	-	-	-	19	22	7	10	-	-	
	TransCanada Energy	AB	-	-	-	100	500	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Ultramar Limitée - Holyrood	NL	-	-	-	-	-	-	-	-	180	96	22	-	-	-	-	-	-	-	
	Ultramar Limitée - Montréal	QC	-	-	-	-	-	-	-	170	88	77	28	28	24	19	14	17	17	-	
	Ultramar Limitée – St. Romuald	QC	-	-	-	120	300	270	262	140	77	183	19	20	-	14	-	16	15	14	
	WPC - Manitoba	MB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	30	18		
	WPC - Ontario	ON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	-	17		
	WPC - Saskatchewan	SK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	23	16		
National Average			345	340	360	350	320	310	290	246	138	63	21	20	18	18	17	18	20	21	

Table D.1b: Volume-Weighted Quarterly Sulphur Levels in Motor Gasoline for 2010

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	CCRL	SK	19	13	14	16	16
	Chevron Burnaby Refinery	BC	25	15	20	16	18
	Husky Oil – Prince George	BC	20	10	0	10	9
	IOL - Dartmouth	NS	29	26	22	25	25
	IOL - Edmonton	AB	20	15	19	21	19
	IOL - Nanticoke	ON	17	11	11	21	15
	IOL - Sarnia	ON	3	3	3	5	3
	Irving Oil	NB	25	16	18	18	20
	North Atlantic	NL	24	17	10	7	16
	SCL - Corunna	ON	23	23	24	34	26
	SCL - Fort Saskatchewan	AB	9	4	7	6	6
	SCL - Montréal	QC	15	12	15	26	14
	SEI - Edmonton	AB	28	21	19	23	22
	SEI - Montréal	QC	22	24	23	24	23
	SEPP - Sarnia	ON	17	26	23	25	23
	Ultramar Limitée – St. Romuald	QC	8	12	19	19	15
Importer	IOL - Burnaby	BC	-	11	28	-	14
	Irving Oil	NB	-	16	18	19	18
	Irving Oil – Canadian Importers	NB	-	-	-	8	8
	Larry Penner - Winnipeg	MB	35	35	35	-	35
	North Atlantic	NL	-	-	10	7	8
	Pétroles Norcan – Norcan Terminal	QC	17	10	13	22	15
	SCL – BC Imports	BC	23	-	-	-	23
	SCL - Montréal	QC	-	-	-	28	28
	SCL – QC Imports	QC	-	-	-	10	10
	SEI - Montréal	QC	23	25	23	25	24
	SEI - Port Moody	BC	16	6	19	16	13
	STC – BC Imports	BC	22	-	16	20	21
	STC – Ontario Imports	ON	-	7	7	12	10
	STC – Quebec Imports	QC	-	-	17	-	17
	Ultramar Limitée - Montréal	QC	18	18	12	20	17
	Ultramar Limitée – St. Romuald	QC	8	12	18	-	16
	WPC – Manitoba	MB	-	25	-	19	23
	WPC – Ontario	ON	-	27	34	26	29
	WPC - Saskatchewan	SK	-	18	28	27	25
National Average			18	16	17	20	18

Table D.1c: Volume-Weighted Quarterly Sulphur Levels in Motor Gasoline for 2011

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	CCRL	SK	23	22	14	16	18
	Chevron Burnaby Refinery	BC	19	26	35	33	28
	Husky Oil – Prince George	BC	5	14	11	8	10
	IOL - Dartmouth	NS	25	30	28	26	27
	IOL - Edmonton	AB	17	14	18	17	16
	IOL - Nanticoke	ON	18	18	22	27	22
	IOL - Sarnia	ON	2	6	3	4	4
	Irving Oil	NB	22	25	23	24	24
	North Atlantic	NL	11	18	19	11	13
	SCL - Corunna	ON	18	18	14	22	19
	SCL - Fort Saskatchewan	AB	7	7	5	8	7
	SEI - Edmonton	AB	33	33	20	16	25
	SEI - Montréal	QC	21	28	23	24	24
	SEPP - Sarnia	ON	26	21	22	17	22
	Ultramar Limitée – St. Romuald	QC	19	20	18	15	18
Importer	IOL – Burnaby	BC	-	7	-	-	7
	IOL – Charlottetown	NS	-	-	13	-	13
	IOL – Dartmouth	NS	-	-	29	-	29
	IOL – Ontario Imports	ON	-	25	-	-	25
	IOL – Point Tupper NS	NS	-	31	-	-	31
	Irving Oil	NB	-	26	25	-	25
	Irving Oil – Canadian Importers	NB	-	24	-	-	24
	MSCG - Montréal	QC	24	17	22	33	24
	MSCG - Quebec	QC	-	-	-	51	51
	MSCG - Ultramar	QC	-	-	34	-	34
	North Atlantic	NL	11	18	19	11	15
	Pétroles Norcan – Norcan Terminal	QC	13	28	16	34	23
	SCL – BC Imports	BC	23	32	28	20	26
	SCL – Ontario Imports	ON	-	22	23	-	22
	SCL – QC Imports	QC	20	20	16	13	17
	SEI - Montréal	QC	21	29	24	24	24
	SEI - Port Moody	BC	12	15	23	-	15
	Ultramar Limitée - Montréal	QC	27	17	24	7	17
	Ultramar Limitée – St. Romuald	QC	-	-	-	15	15
	WPC – Manitoba	MB	-	30	-	-	30
	WPC – Saskatchewan	SK	-	23	-	-	23
National Average			20	21	19	19	20

Table D.1d: Volume-Weighted Quarterly Sulphur Levels in Motor Gasoline for 2012

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	CCRL	SK	21	18	20	19	19
	Chevron Burnaby Refinery	BC	21	19	19	21	20
	Husky Oil – Prince George	BC	5	7	11	18	10
	IOL - Dartmouth	NS	27	28	28	32	29
	IOL - Edmonton	AB	18	9	16	18	15
	IOL - Nanticoke	ON	25	33	30	28	29
	IOL - Sarnia	ON	5	5	2	2	4
	Irving Oil	NB	19	23	27	31	25
	North Atlantic	NL	17	22	22	31	22
	SCL - Corunna	ON	22	24	27	27	25
	SCL - Fort Saskatchewan	AB	7	7	7	8	7
	SEI - Edmonton	AB	18	23	24	23	22
	SEI - Montréal	QC	32	19	24	28	26
	SEPP - Sarnia	ON	26	25	21	29	25
Importer	Ultramar Limitée – St. Romuald	QC	13	14	21	17	16
	Chevron Burnaby Refinery	BC	22	20	21	23	21
	Irving Oil	NB	-	-	26	33	29
	MSCG - Montréal	QC	29	35	24	19	28
	MSCG - Quebec	QC	-	-	-	17	17
	MSCG - Ultramar	QC	-	-	1	-	1
	North Atlantic	NL	-	22	22	31	25
	Pétroles Norcan – Norcan Terminal	QC	48	21	25	26	30
	SCL – BC Imports	BC	12	31	28	24	25
	SCL – QC Imports	QC	8	15	13	19	14
	SEI - Montréal	QC	34	-	-	-	34
	SEI - Port Moody	BC	-	29	31	-	30
	Ultramar Limitée – St. Romuald	QC	-	14	21	-	14
	WPC – Manitoba	MB	-	20	16	-	18
	WPC – Ontario	ON	-	17	-	-	17
	WPC – Saskatchewan	SK	22	16	14	-	16
National Average			20	20	21	22	21

Table D.2a: Volume-Weighted Annual Sulphur Levels in Ultra-Low-Sulphur Diesel Fuel, 2006-2012¹

	Name	Province/State	Sulphur Levels (mg/kg)						
			2006	2007	2008	2009	2010	2011	2012
Refiner	CCRL	SK	6	7	5	6	6	5	7
	Chevron Burnaby Refinery	BC	9	8	6	8	8	8	8
	Husky Oil – Lloydminster Upgrader	SK	-	-	12	11	10	4	2
	Husky Oil – Prince George	BC	-	0	2	3	3	4	3
	IOL - Dartmouth	NS	7	7	8	9	8	11	10
	IOL - Edmonton	AB	4	3	3	5	4	5	6
	IOL - Nanticoke	ON	4	4	5	7	7	7	8
	IOL - Sarnia	ON	4	4	4	6	5	6	7
	Irving Oil	NB	4	4	5	6	7	7	7
	North Atlantic	NL	5	6	5	6	6	5	5
	PC – Burrard Products T. - Production	BC	6	7	7	-	-	-	-
	PC – Edmonton	AB	2	1	1	-	-	-	-
	PC - Montréal	QC	4	3	3	-	-	-	-
	PC - Oakville	ON	-	2	-	-	-	-	-
	Petro-Canada Lubricants	ON	1	1	1	1	2	2	5
	SCL - Corunna	ON	4	5	6	7	7	7	8
	SCL - Fort Saskatchewan	AB	3	4	5	5	4	4	5
	SCL - Montréal	QC	5	3	2	4	4	-	-
	SEI – Edmonton	AB	-	-	-	1	1	1	1
	SEI – Fort McMurray	AB	6	6	4	4	4	4	3
	SEI - Montréal	QC	-	-	-	3	4	4	4
	SEI – Port Moody	BC	-	-	-	8	8	3	-
	SEPP - Sarnia	ON	5	5	6	7	7	7	7
	Ultramar Limitée – St. Romuald	QC	3	4	6	5	6	7	7

Importer	Name	Province/State	Sulphur Levels (mg/kg)						
			2006	2007	2008	2009	2010	2011	2012
	AFD Petroleum Limited	AB	-	-	-	-	9	7	15
	CCRL	SK	-	7	6	5	5	6	5
	Chevron Burnaby Imports	BC	7	5	5	-	-	-	-
	Chevron Burnaby Refinery	BC	-	-	-	7	8	7	7
	City Service Valcon LLC	AB, BC	-	-	-	-	-	10	-
	CN Railway CN Symington LRC	MB	-	-	10	-	-	8	5
	CN Railway CN Thronton Yard	BC	-	-	-	-	7	6	6
	CP Railway – Gulf Canada	AB	-	4	-	-	-	-	11
	ERS Inc.	YT	-	-	-	-	-	9	4
	ERS Inc. - Edmonton	AB	-	-	-	-	-	12	-
	Flying J – Alberta Imports	AB	-	5	-	-	-	-	-
	Flying J – Ontario Imports	ON	-	9	-	-	-	-	-
	Gra Ham Energy Ltd	ON	-	-	-	-	-	-	9
	Idemitsu Apollo Kinder Morgan Vancouver Wharves	BC	-	-	-	-	-	-	7
	IOL - Burnaby	BC	6	5	5	-	2	7	-
	IOL – Eastern Passage	NS	5	3	8	-	-	6	-
	IOL – Ontario Imports	ON	-	8	-	-	-	-	-
	IOL - Sarnia	ON	-	-	-	-	-	7	7
	IOL – Sept Isles	QC	3	5	7	4	4	5	-
	Irving Oil – Canadian Importers	NB	-	-	-	-	-	6	-
	Larry Penner - Winnipeg	MB	-	-	-	10	-	10	-
	MSCG - Montréal	QC	-	-	-	-	5	-	8
	MSCG - Quebec	QC	-	-	-	-	-	-	5
	North 60 Petro	YT	-	-	-	-	-	-	2
	North Atlantic	NL	-	-	-	-	6	-	-
	Northern Transportation – Hay River	NT	-	-	-	10	-	-	-
	Northern Transportation - Iqaluit	NU	-	-	5	-	-	-	-
	PaceSetter Enterprises	YT	-	-	-	-	-	7	4
	Parkland - Yukon	YT	10	15	15	-	15	15	-
	PC – Burrard Products T. - Imports	BC	4	6	3	-	-	-	-
	Pétroles Norcan – Norcan Terminal	QC	7	-	-	6	5	-	-

Importer	Name	Province/State	Sulphur Levels (mg/kg)						
			2006	2007	2008	2009	2010	2011	2012
Importers	SCL – BC Imports	BC	-	-	-	-	-	7	8
	SCL - Montréal	QC	5	3	2	-	-	-	-
	SCL – Ontario Imports	ON	-	-	-	-	-	-	9
	SCL – QC Imports	QC	-	-	-	-	-	6	4
	SCL – Shellburn Terminal, Burnaby	BC	7	3	3	-	-	-	-
	SEI - Montréal	QC	-	-	-	3	3	5	-
	SEI – Port Moody	BC	-	-	-	7	3	4	3
	SEPP - Sarnia	ON	4	5	-	7	-	-	-
	STC – BC Imports	BC	-	-	5	7	5	-	-
	STC - Quebec Imports	QC	-	7	-	-	3	-	-
	TAG – Kinder Morgan Vancouver Wharves	BC	-	-	-	-	-	-	8
	TCGP – Chevron Refinery and Suncor Burrard Terminal	BC	-	-	-	-	2	-	-
	TCGP – Horizon Marine and Newmont Mining	NT and NU	-	-	-	-	9	-	-
	TCGP – Kinder Morgan Vancouver Wharves	BC	-	-	-	-	2	6	-
	Ultramar Limitée - Montréal	QC	5	5	4	-	-	-	-
	Ultramar Limitée – St. Romuald	QC	2	-	-	-	-	7	7
	Western Gas and Liquids Co. – SK Imports	SK	-	-	8	10	-	-	-
	WPC – Alberta	AB	-	-	-	-	-	5	-
	WPC – BC	BC	-	-	-	-	-	6	-
	WPC – Manitoba	MB	-	-	-	-	10	6	4
	WPC – Ontario	ON	-	-	-	-	-	7	4
	WPC - Saskatchewan	SK	-	-	-	-	9	6	4
National Average			4	4	4	5	5	6	5

¹ No data for 1995–2005 as 15 mg/kg sulphur limit for Ultra-Low-Sulphur Diesel came into effect from 2006 (no Ultra-Low-Sulphur Diesel data collected from 1999–2005).

Table D.2b: Volume-Weighted Quarterly Sulphur Levels in Ultra-Low-Sulphur Diesel Fuel for 2010

		Sulphur Levels (mg/kg)					
Name		Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	CCRL	SK	5	5	6	8	6
	Chevron Burnaby Refinery	BC	8	7	8	8	8
	Husky Oil – Lloydminster Upgrader	SK	12	10	8	9	10
	Husky Oil – Prince George	BC	1	6	5	1	3
	IOL - Dartmouth	NS	7	8	9	8	8
	IOL - Edmonton	AB	4	4	5	4	4
	IOL - Nanticoke	ON	5	7	8	8	7
	IOL - Sarnia	ON	6	5	6	5	5
	Irving Oil	NB	6	7	6	9	7
	North Atlantic	NL	6	7	7	5	6
	Petro-Canada Lubricants	ON	2	1	2	2	2
	SCL - Corunna	ON	5	8	8	7	7
	SCL - Fort Saskatchewan	AB	4	4	5	4	4
	SCL - Montréal	QC	3	4	4	3	4
	SEI - Edmonton	AB	1	1	1	1	1
	SEI – Fort McMurray	AB	4	5	4	4	4
	SEI - Montréal	QC	3	5	6	3	4
	SEI – Port Moody	BC	8	9	-	7	8
	SEPP - Sarnia	ON	7	7	7	7	7
	Ultramar Limitée – St. Romuald	QC	4	5	6	7	6
Importer	AFD Petroleum Limited	AB	5	9	11	-	9
	CCRL	SK	5	5	-	-	5
	Chevron Burnaby Refinery	BC	8	7	8	8	8
	CN Railway CN Thorton Yard	BC	-	7	7	7	7
	IOL - Burnaby	BC	2	-	-	-	2
	IOL – Sept Isles	QC	6	-	2	3	4
	MSCG - Montreal	QC	-	-	-	5	5
	North Atlantic	NL	6	-	-	-	6
	Parkland - Yukon	YT	-	-	15	15	15
	Pétroles Norcan – Norcan Terminal	QC	-	-	5	-	5
	SEI - Montréal	QC	-	-	-	3	3
	SEI - Port Moody	BC	-	-	2	7	3
	STC – BC Imports	BC	-	-	5	5	5
	STC – Quebec Imports	QC	-	-	-	3	3
	TCGP – Chevron Refinery and Suncor Burrard Terminal	BC	-	-	2	-	2
	TCGP –Horizon Marine and Newmont Mining	NT and NU	-	-	9	-	9
	TCGP – Kinder Morgan Vancouver Wharves	BC	-	-	2	-	2
	WPC – Manitoba	MB	-	-	10	-	10
	WPC – Saskatchewan	SK	-	-	-	9	9
National Average			4	5	5	5	5

Table D.2c: Volume-Weighted Quarterly Sulphur Levels in Ultra-Low-Sulphur Diesel Fuel for 2011

		Province/State	Sulphur Levels (mg/kg)				
Name			Q1	Q2	Q3	Q4	Annual
Refiner	CCRL	SK	7	7	9	0	5
	Chevron Burnaby Refinery	BC	8	8	8	6	8
	Husky Oil – Lloydminster Upgrader	SK	6	7	4	2	4
	Husky Oil – Prince George	BC	1	7	6	3	4
	IOL - Dartmouth	NS	9	11	10	10	11
	IOL - Edmonton	AB	3	4	6	5	5
	IOL - Nanticoke	ON	7	7	7	7	7
	IOL - Sarnia	ON	6	7	6	5	6
	Irving Oil	NB	6	7	8	7	7
	North Atlantic	NL	3	6	6	2	5
	Petro-Canada Lubricants	ON	1	1	-	2	2
	SCL - Corunna	ON	5	7	8	7	7
	SCL - Fort Saskatchewan	AB	4	5	4	5	4
	SEI - Edmonton	AB	1	1	1	1	1
	SEI – Fort McMurray	AB	5	5	4	4	4
	SEI - Montréal	QC	3	6	6	3	4
	SEI – Port Moody	BC	-	3	-	-	3
	SEPP – Sarnia	ON	7	7	7	7	7
	Ultramar Limitée – St. Romuald	QC	8	7	7	8	7
Importer	AFD Petroleum Limited	AB	4	8	8	9	7
	CCRL	SK	7	7	-	0	6
	Chevron Burnaby Refinery	BC	8	8	8	6	7
	City Service Valcon LLC	AB,BC	11	11	-	9	10
	CN Railway CN Symington LRC	MB	7	11	8	6	8
	CN Railway CN Thorton Yard	BC	7	6	7	6	6
	ERS Inc.	YT	-	-	-	9	9
	ERS Inc. - Edmonton	AB	-	-	12	-	12
	IOL - Burnaby	BC	6	8	-	5	7
	IOL – Eastern Passage	NS	6	-	-	-	6
	IOL – Sarnia	ON	-	7	-	-	7
	IOL – Sept Isles	QC	5	5	10	4	5
	Irving Oil – Canadian Importers	NB	6	-	-	-	6
	Larry Penner - Winnipeg	MB	-	-	-	10	10
	PaceSetter Enterprises	YT	-	-	-	7	7
	Parkland - Yukon	YT	-	-	-	15	15
	SCL – BC Imports	BC	6	7	-	6	7
	SCL – QC Imports	QC	5	6	-	6	6
	SEI - Montréal	QC	3	6	6	3	5
	SEI – Port Moody	BC	4	3	1	5	4
	TCGP – Kinder Morgan Vancouver Wharves	BC	-	-	6	-	6
	Ultramar Limitée - St. Romuald	QC	-	-	7	-	7
	WPC – BC	BC	-	-	-	6	6
	WPC – Manitoba	MB	-	8	-	5	6
	WPC - Ontario	ON	-	-	-	7	7
	WPC – Saskatchewan	SK	-	-	-	6	6
National Average			5	7	6	5	6

Table D.2d: Volume-Weighted Quarterly Sulphur Levels in Ultra-Low-Sulphur Diesel Fuel for 2012

		Province/State	Sulphur Levels (mg/kg)				
Name	Refiner		Q1	Q2	Q3	Q4	Annual
CCRL	Refiner	SK	5	3	4	9	7
Chevron Burnaby Refinery		BC	9	8	9	5	8
Husky Oil – Lloydminster Upgrader		SK	2	3	2	2	2
Husky Oil – Prince George		BC	2	5	3	2	3
IOL - Dartmouth		NS	10	9	10	10	10
IOL - Edmonton		AB	6	6	6	6	6
IOL - Nanticoke		ON	8	7	8	8	8
IOL - Sarnia		ON	7	7	8	7	7
Irving Oil		NB	7	8	7	6	7
North Atlantic		NL	2	6	7	4	5
Petro-Canada Lubricants		ON	5	7	4	3	5
SCL - Corunna		ON	8	8	8	7	8
SCL - Fort Saskatchewan		AB	5	6	5	5	5
SEI – Edmonton		AB	1	1	2	1	1
SEI – Fort McMurray		AB	3	3	4	4	3
SEI - Montréal		QC	2	6	7	3	4
SEPP – Sarnia		ON	7	7	7	6	7
Ultramar Limitée – St. Romuald		QC	6	7	8	7	7
AFD Petroleum Limited	Importer	AB	15	15	15	15	15
CCRL		SK	5	3	-	9	5
Chevron Burnaby Refinery		BC	-	8	9	5	7
CN Railway CN Symington LRC		MB	8	0	8	6	5
CN Railway CN Thorton Yard		BC	6	6	7	7	6
CP Railway – Gulf Canada		AB	-	12	8	7	11
ERS Inc.		YT	3	7	6	3	4
Gra Ham Energy Ltd		ON	10	-	-	3	9
Idemitsu Apollo Kinder Morgan Vancouver Wharves		BC	-	-	-	7	7
IOL – Sarnia		ON	-	7	-	-	7
MSCG - Montréal		QC	8	-	-	-	8
MSCG - Quebec		QC	-	-	-	5	5
North 60 Petro		YT	-	-	5	2	2
PaceSetter Enterprises		YT	-	-	4	-	4
SCL – BC Imports		BC	-	8	-	7	8
SCL – Ontario Imports		ON	-	9	9	-	9
SCL – QC Imports		QC	6	-	-	1	4
SEI – Port Moody		BC	1	4	1	2	3
TAG – Kinder Morgan Vancouver Wharves		BC	-	-	8	-	8
Ultramar Limitée - St. Romuald		QC	-	7	-	-	7
WPC – Manitoba		MB	1	3	-	7	4
WPC -Ontario		ON	-	3	6	7	4
WPC – Saskatchewan		SK	-	3	6	-	4
National Average			5	6	6	5	5

Table D.3a: Volume-Weighted Annual Sulphur Levels in Low-Sulphur Diesel Fuel, 1995-2012

		Sulphur Levels (mg/kg)																		
		Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Refiner	CCRL	SK	200	270	250	230	220	190	211	211	189	153	113	32	-	-	-	-	-	-
	Chevron Burnaby Refinery	BC	350	390	380	400	400	400	389	490	397	355	308	238	120	40	26	38	23	-
	Coco Paving Inc.	ON	-	-	-	-	-	-	-	-	-	-	-	-	500	-	-	-	-	-
	Husky Oil - Lloydminster Upgrader	SK	-	-	-	-	-	-	-	-	-	-	-	-	-	16	18	17	22	-
	Husky Oil - Prince George	BC	140	200	200	210	190	190	188	165	161	183	149	81	-	-	-	-	-	-
	IOL - Dartmouth	NS	340	360	390	400	330	370	402	397	404	363	341	376	384	381	387	316	284	20
	IOL - Edmonton	AB	290	400	410	380	430	400	420	409	400	405	383	361	285	263	182	284	-	-
	IOL - Nanticoke	ON	-	-	160	290	280	310	356	322	310	283	310	284	281	278	-	-	-	-
	IOL - Sarnia	ON	-	-	420	290	410	350	349	371	342	292	328	329	326	308	276	284	348	53
	Irving Oil	NB	400	400	440	450	440	430	433	432	420	391	382	168	287	206	39	40	19	-
	Newalta	BC	-	-	-	-	-	-	-	-	-	209	120	200	-	-	-	-	-	-
	North Atlantic	NL	-	-	490	130	330	260	148	163	188	180	184	263	107	-	56	117	35	230
	NOVA Chemicals	ON	-	-	-	-	-	-	-	-	-	-	-	-	-	450	455	452	-	-
	PC - Burrard Products T. - Production	BC	-	-	-	-	-	-	-	-	-	-	77	221	-	-	-	-	-	-
	PC - Edmonton	AB	190	220	210	230	240	280	283	256	283	240	170	124	152	105	-	-	-	-
	PC - Montréal	QC	340	420	330	400	400	430	451	422	400	338	327	225	-	-	-	-	-	-
	PC - Oakville	ON	-	-	170	320	300	300	278	222	245	294	350	-	-	-	-	-	-	-
	Petro-Canada Lubricants	ON	10	20	20	20	20	20	20	20	85	-	-	-	-	-	-	-	-	-
	Robbins Feed and Fuel	ON	-	-	-	-	-	410	-	-	-	-	-	-	-	-	-	-	-	-
	SCL - Corunna	ON	330	340	360	360	370	390	392	400	391	389	377	341	443	333	173	357	334	422
	SCL - Fort Saskatchewan	AB	50	80	100	210	140	150	196	129	129	111	124	87	-	-	-	-	-	-
	SCL - Montréal	QC	390	370	210	280	360	350	378	344	365	327	255	98	60	18	-	-	-	-
	SEI - Edmonton	AB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-
	SEI - Fort McMurray	AB	70	90	140	160	200	250	225	225	225	204	225	214	183	202	117	270	238	285
	SEI - Montréal	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SEPP - Sarnia	ON	340	300	370	460	450	440	437	425	419	399	410	401	-	-	-	-	-	-
	Ultramar Limitée - St. Romuald	QC	450	380	400	410	430	420	420	424	412	418	379	336	-	-	-	-	-	-

			Sulphur Levels (mg/kg)																								
			Name	Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012					
Importer	BP Cherry Point	Washington	-	-	-	-	-	380	380	360	339	400	-	-	-	-	-	-	-	-	-	-					
	CCRL		-	-	-	-	-	-	-	-	-	-	-	163	112	-	-	-	-	-	-	-	-				
	CFS Alert		NU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	338				
	Chevron Burnaby Imports		BC	-	-	-	-	-	-	-	-	-	-	-	-	131	-	-	-	-	-	-	-	-			
	CN Railway CN MacMillan Yard		ON	-	-	-	-	-	-	-	-	-	-	-	-	-	405	-	-	-	-	-	-	-			
	CN Railway CN Melville		SK	-	-	-	-	-	-	-	-	-	-	-	-	340	-	-	-	-	-	-	-	-			
	CN Railway CN Symington LRC		MB	-	-	-	-	-	-	-	-	-	-	-	-	390	360	-	-	-	-	-	-	-			
	CN Railway CN Thorton Yard		BC	-	-	-	-	-	-	-	-	-	-	-	-	353	318	322	358	-	-	-	-	-			
	CP Railway – Gulf Canada		AB	-	-	-	-	-	-	-	-	-	-	-	470	-	-	392	150	148	57	-	-	-			
	Daigle Oil		NB	-	-	-	-	-	500	500	-	160	-	-	20	-	-	-	-	-	-	-	-	-			
	Delta Western Fuel (Totem Oil)		YT	-	-	-	160	400	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Husky Oil – Prince George		BC	-	-	-	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	IOL - Burnaby		BC	-	-	-	230	-	360	345	-	424	345	341	148	-	-	-	-	-	-	-	-	-			
	IOL – Glencore Dartmouth		NS	-	-	-	-	-	-	-	-	-	-	-	-	303	-	-	-	-	-	-	-	-			
	Mackenzie		YT	-	-	-	-	-	-	-	-	385	207	310	405	-	-	-	-	-	-	-	-	-			
	Marine Petrobulk		BC	-	-	-	-	-	-	-	-	272	300	-	-	-	-	-	-	-	-	-	-	-			
	Murphy Oil USA		Wisconsin	-	-	-	270	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	North 60 Petro		YT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	314	-	19	-	-	-			
	North Atlantic		NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	117	-	-	-	-	-			
	Northern Transportation – Hay River		NT	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-	-	-	-			
	Northern Transportation - Iqaluit		NU	-	-	-	20	210	270	271	255	-	-	13300	51	-	-	-	-	-	-	-	-	-	-		
	Olco - Beauport		QC	-	-	-	400	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Olco - Montréal		QC	-	-	-	-	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Parkland		AB	-	-	-	400	500	480	500	448	290	378	441	450	-	-	-	-	-	-	-	-	-	-		
	PC – Burrard Products T. - Imports		BC	-	-	-	-	-	360	251	-	375	348	267	57	-	-	-	-	-	-	-	-	-	-		
	PC - Montréal		QC	-	-	-	390	400	400	473	500	-	333	-	-	-	-	-	-	-	-	-	-	-	-		
	PC - Oakville		ON	-	-	-	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Pétroles Norcan – Norcan Terminal		QC	-	-	-	450	450	-	-	-	-	462	-	-	-	-	-	-	-	-	-	-	-	-		
	Robbins Feed and Fuel		ON	-	-	-	-	-	-	289	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	SCL - Montréal		QC	-	-	-	-	-	-	-	-	-	-	365	-	-	-	-	-	-	-	-	-	-	-	-	
	SCL – Shellburn Terminal, Burnaby		BC	-	-	-	-	-	-	-	-	-	-	379	388	397	-	-	-	-	-	-	-	-	-	-	
	SEPP - Sarnia		ON	-	-	-	-	-	-	-	-	-	-	410	430	390	-	-	-	-	-	-	-	-	-	-	
	Sunoco		ON	-	-	-	-	-	-	430	-	-	-	-	400	258	237	-	-	-	-	-	-	-	-	-	-
	Ultramar Limitée - Holyrood		NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		Sulphur Levels (mg/kg)																			
	Name	Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
	Ultramar Limitée - Montréal	QC	-	-	-	-	-	-	440	-	254	242	136	-	-	-	-	-	-	-	
	Ultramar Limitée - St. Romuald	QC	-	-	-	410	430	410	412	-	-	365	-	-	-	-	-	-	-	-	
	United Refining Company	Pennsylvania	-	-	-	-	-	282	286	296	-	-	-	-	-	-	-	-	-	-	
National Average			210	260	270	310	320	330	340	324	317	297	277	213	256	263	196	242	227	248	

Table D.3b: Volume-Weighted Quarterly Sulphur Levels in Low-Sulphur Diesel Fuel for 2010

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	Chevron Burnaby Refinery	BC	70	14	15	19	38
	Husky Oil – Lloydminster Upgrader	SK	17	17	16	17	17
	IOL - Dartmouth	NS	263	383	337	286	316
	IOL - Edmonton	AB	273	367	-	-	284
	IOL - Sarnia	ON	27	286	258	342	284
	Irving Oil	NB	35	52	35	38	40
	North Atlantic	NL	117	-	-	-	117
	NOVA Chemicals	ON	447	449	481	-	452
	SCL - Corunna	ON	290	258	355	454	357
	SEI - Edmonton	AB	24	-	-	-	24
	SEI – Fort McMurray	AB	307	246	285	224	270
Importer	CN Railway CN Thorton Yard	BC	359	355	-	-	358
	CP Railway – Gulf Canada	AB	169	61	210	242	150
	North 60 Petro	YT	100	100	-	460	314
	North Atlantic	NL	117	-	-	-	117
National Average			203	249	263	262	242

Table D.3c: Volume-Weighted Quarterly Sulphur Levels in Low-Sulphur Diesel Fuel for 2011

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	Chevron Burnaby Refinery	BC	18	-	48	21	23
	Husky Oil – Lloydminster Upgrader	SK	15	-	17	44	22
	IOL - Dartmouth	NS	241	344	244	325	284
	IOL - Sarnia	ON	352	374	338	319	348
	Irving Oil	NB	16	20	22	17	19
	North Atlantic	NL	18	29	-	56	35
	SCL - Corunna	ON	455	376	271	310	334
	SEI – Fort McMurray	AB	180	243	193	277	238
Importer	CP Railway – Gulf Canada	AB	173	176	150	118	148
National Average			208	257	199	235	227

Table D.3d: Volume-Weighted Quarterly Sulphur Levels in Low-Sulphur Diesel Fuel for 2012

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	IOL - Dartmouth	NS	-	20	-	-	20
	IOL - Sarnia	ON	53	-	-	-	53
	North Atlantic	NL	230	-	-	-	230
	SCL - Corunna	ON	429	442	363	437	422
	SEI – Fort McMurray	AB	297	266	-	-	285
Importer	CFS Alert	NU	-	338	-	-	338
	CP Railway – Gulf Canada	AB	63	-	19	-	57
	North 60 Petro	YT	19	19	-	-	19
National Average			254	228	261	437	248

Table D.4a: Volume-Weighted Annual Sulphur Levels in High-Sulphur Diesel Fuel, 1995-2012

		Sulphur Levels (mg/kg)																			
Name		Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Refiner	Chevron Burnaby Refinery	BC	1 680	2 670	4 140	3 750	4 050	3 110	3 290	3 648	3 518	1 885	3 351	3 315	1 835	-	-	1 520	-	-	
	Husky Oil – Prince George	BC	570	580	-	-	-	-	-	-	-	-	580	-	-	-	-	-	-	-	
	IOL - Dartmouth	NS	2 010	1 460	1 840	890	510	740	989	656	990	887	965	1 431	1 220	-	-	770	-	-	
	IOL - Edmonton	AB	1 820	2 100	1 980	2 100	2 140	2 170	2 495	2 253	2 219	2 154	2 005	2 031	1 440	-	-	-	-	-	
	IOL - Nanticoke	ON	3 480	3 880	4 300	-	-	-	-	-	-	-	840	2 419	862	-	-	-	-	-	
	IOL - Regina	SK	-	-	-	-	-	-	-	-	-	610	-	-	-	-	-	-	-	-	
	IOL - Sarnia	ON	660	690	-	-	-	1 430	1 297	1 154	-	1 067	913	799	1 980	-	-	-	-	-	
	IOL - Winnipeg	MB	-	-	-	-	-	-	-	-	-	2 020	-	-	-	-	-	-	-	-	
	Irving Oil	NB	1 820	1 840	1 750	2 150	1 700	1 690	-	-	-	-	-	-	3 960	-	-	-	-	-	
	North Atlantic	NL	2 320	1 270	1 100	4 220	-	1 100	485	-	1 273	-	-	1 059	438	-	-	-	-	-	
	Parkland	AB	5 650	5 680	4 620	4 730	3 880	4 820	3 781	-	-	-	-	-	-	-	-	-	-	-	
	PC – Edmonton	AB	-	-	-	-	-	-	-	-	513	477	399	-	-	-	-	-	-	-	
	PC - Montréal	QC	2 910	3 720	3 540	2 430	5 330	3 510	3 071	2 044	1600	2000	2400	1132	-	-	-	-	-	-	
	PC - Oakville	ON	3 570	3 500	3 810	3 720	3 160	2 990	2 839	3 216	3 026	3 107	1 991	-	-	-	-	-	-	-	
	SCL – Corunna	ON	4 050	4 040	4 200	4 090	3 720	3 780	3 676	3 658	4 390	4 313	4 165	3 699	-	-	-	-	-	-	
	SCL – Fort Saskatchewan	AB	-	-	270	-	480	470	-	-	441	310	-	-	-	-	-	-	-	-	
	SCL - Montréal	QC	2 060	2 230	1 900	3 020	2 470	2 110	2 431	2 050	2 153	2 847	2 751	2 030	-	-	-	-	-	-	
	SEI - Montréal	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	SEPP - Sarnia	ON	1 290	1 620	2 370	2 650	2 010	2 300	2 291	1 958	1 678	1 404	1 794	1 312	2 873	-	-	-	-	-	-
	Ultramar Limitée – St. Romuald	QC	800	760	860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Importer	CFS Alert	NU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 384	
	CN Railway CN Thornton Yard	BC	-	-	-	-	-	-	-	-	-	3 808	-	2 038	-	-	-	-	-	-	
	Coco Paving Inc.	ON	-	-	-	-	-	-	-	-	500	500	-	-	-	-	-	-	-	-	
	CP Railway – Gulf Canada	AB	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	
	Daigle Oil	NB	-	-	-	-	-	1 750	-	-	-	-	-	-	-	-	-	-	-	-	
	IOL - Burnaby	BC	-	-	-	-	-	-	-	-	-	1 590	-	-	-	-	-	-	-	-	
	Mackenzie	YT	-	-	-	4 730	3 730	4 130	3 592	4 100	2 967	1 905	2 190	1 912	-	-	-	-	-	-	
	Marine Petrobulk	BC	-	-	-	-	-	-	500	-	-	-	-	-	-	-	-	-	-	-	
	Murphy Oil USA	Wisconsin	-	-	-	-	2 900	820	-	-	-	-	-	-	-	-	-	-	-	-	

		Sulphur Levels (mg/kg)																			
	Name	Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Importer	North 60 Petro	YT	-	-	-	-	-	2 710	-	-	-	-	-	-	-	-	-	-	520	-	
	Northern Transportation - Iqaluit	NU	-	-	-	800	-	1 840	-	-	-	-	-	-	-	-	-	-	-	-	
	Parkland	AB	-	-	-	4 730	3 500	4 780	3 621	4 074	2827	2294	1524	-	-	-	-	-	-	-	
	Parkland - Yukon	YT	-	-	-	-	-	-	-	-	-	-	-	1 379	1 143	950	1 012	1 031	1 141	-	
	PC - Oakville	ON	-	-	-	3 700	2 510	3 030	2 812	-	-	-	-	-	-	-	-	-	-	-	
	SEI - Port Moody	BC	-	-	-	-	490	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Ultramar Limitée - Holyrood	NL	-	-	-	-	-	-	-	-	-	-	2 690	-	-	-	-	-	-	-	
National Average			2 150	2 360	2 580	2 990	2 300	2 170	2 480	2 467	2 488	2 180	2208	2 156	1 631	950	1 012	1 243	538	1 384	

Table D.4b: Volume-Weighted Quarterly Sulphur Levels in High-Sulphur Diesel Fuel for 2010

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	Chevron Burnaby Refinery	BC	1 520	-	-	-	1 520
	IOL - Dartmouth	NS	-	770	-	-	770
Importer	Parkland - Yukon	YT	970	937	960	1 100	1 031
National Average			1 460	777	960	1 100	1 243

Table D.4c: Volume-Weighted Quarterly Sulphur Levels in High-Sulphur Diesel Fuel for 2011

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Importer	Parkland - Yukon	YT	-	930	1 450	1 060	1 141
	North 60 Petro	YT	520	520	520	520	520
National Average			520	532	600	549	538

Table D.4d: Volume-Weighted Quarterly Sulphur Levels in High-Sulphur Diesel Fuel for 2012

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Importer	CFS Alert	NU	-	-	1 384	1 396	1 384
National Average			0	0	1 384	1 396	1 384

Table D.5a: Volume-Weighted Annual Sulphur Levels in Light Fuel Oil, 1995-2012

		Sulphur Levels (mg/kg)																		
Name		Province/State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Refiner	Husky Oil – Prince George	BC	-	-	514	599	590	600	599	703	403	274	150	-	-	-	-	-	-	-
	IOL - Dartmouth	NS	2 125	2 004	1 928	1 360	940	1 230	1 168	1 037	1 030	1 094	1 105	1 184	1 735	1 448	1 241	1 033	1 423	905
	IOL - Nanticoke	ON	2 950	3 189	3 327	1 791	2 000	1 950	1 269	-	2 770	-	-	-	-	-	-	-	-	-
	IOL - Sarnia	ON	1 668	1 803	1 417	2 260	1 830	1 690	2 277	2 047	1 414	2 279	1 991	2 133	-	-	-	-	-	-
	Irving Oil	NB	-	-	1 731	2 080	1 770	1 660	1 630	1 553	1 304	1 740	1 489	1 555	1 446	1 879	1 796	1 773	1 716	1 814
	Newalta	BC	-	-	-	-	-	-	-	-	-	-	-	143	154	122	128	130	150	106
	North Atlantic	NL	-	-	-	-	-	-	-	1 282	860	1 176	1 216	1 604	1 053	1 150	846	875	1 346	1 229
	NOVA Chemicals	ON	1 520	1 450	1 550	1 850	1 770	1 450	1 449	1 252	1 117	1 063	887	820	406	-	-	1 313	938	
	PC - Montréal	QC	2 577	3 591	2 753	3 336	3 360	3 470	3 129	2 509	2 400	2 298	1 883	1 033	335	498	-	-	-	-
	PC - Oakville	ON	3 642	4 069	3 663	4 253	4 120	3 650	3 368	3 819	3 710	3 433	2 380	-	-	-	-	-	-	-
	SCL – Corunna	ON	3 000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SCL - Montréal	QC	2 357	2 256	2 784	2 837	2 720	2 770	2 895	2 291	2 468	2 814	2 693	2 875	2 564	2 496	2 145	2 180	-	-
	SEI - Fort McMurray	AB	-	-	-	-	-	-	-	-	-	-	-	2 991	2 963	2 838	3 098	2 988	2 648	2 734
	SEI - Montréal	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	352	178	435	249
	SEPP - Sarnia	ON	1 591	1 758	2 144	2 578	2 190	2 960	1 810	2 376	1 654	1 500	1 827	1 249	1 540	1 218	2 203	2 291	1 828	1 215
	Ultramar Limitée – St. Romuald	QC	1 120	1 281	1 355	2 231	1 810	1 630	1 539	1 215	1 074	1 086	-	467	1 471	24	5	6	9	7
Importer	AFD Petroleum Limited	AB	-	-	-	-	-	-	-	-	-	-	-	-	-	15	15	-	-	998
	City Service Valcon LLC	AB, BC	-	-	-	-	-	-	-	-	-	-	-	-	-	115 000	-	-	-	-
	Daigle Oil	NB	-	-	-	-	-	3 000	3 000	3 000	500	-	-	14	-	-	-	-	-	-
	IOL – Sept Isles	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Irving Oil	NB	-	-	-	-	-	-	-	-	-	-	-	-	1 263	-	-	-	-	-
	North 60 Petro	YT	-	-	-	1 000	1 000	1 000	2 700	-	-	-	-	-	-	-	420	333	156	
	North Atlantic	NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	993	-	-	-
	Northern Transportation - Iqaluit	NU	-	-	-	-	-	-	-	-	-	-	-	-	-	320	-	-	-	-

		Sulphur Levels (mg/kg)																		
	Name	Province/State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Importer	Olco - Beauport	QC	-	-	-	-	2 300	-	-	-	-	-	-	-	-	-	-	-	-	-
	Olco - Montréal	QC	-	-	-	-	2 300	-	-	-	-	-	-	-	-	-	-	-	-	-
	PC - Oakville	ON	-	-	-	3 880	3 880	-	3 440	3 600	-	-	-	-	-	-	-	-	-	-
	Pétroles Norcan – Norcan Terminal	QC	-	-	-	-	-	-	-	-	2 740	-	-	-	-	-	-	-	-	-
	Port Colborne Quarries	ON	-	-	-	-	-	-	-	-	2 231	1 274	1 254	1 262	-	-	-	-	-	-
	Statia Terminals Canada	NS	-	-	-	-	-	-	1 020	-	-	-	-	-	-	-	-	-	-	-
	Ultramar Limitée – St. Romuald	QC	-	-	-	-	-	-	1 643	-	-	-	-	-	-	-	-	-	-	-
National Average			1 980	2 150	2 000	2 270	2 030	2 030	1 890	1 763	1 543	1 673	1 594	1 417	1 393	1 038	962	789	988	730

Table D.5b: Volume-Weighted Quarterly Sulphur Levels in Light Fuel Oil for 2010

		Sulphur Levels (mg/kg)					
		Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	IOL - Dartmouth	NS	810	1 620	1 450	940	1 033
	Irving Oil	NB	1 848	3 288	2 025	1 050	1 773
	Newalta	BC	150	200	100	100	130
	North Atlantic	NL	993	122	11	1 831	875
	SCL - Montréal	QC	2 200	1 700	-	-	2 180
	SEI - Fort McMurray	AB	2 937	2 859	3 159	2 942	2 988
	SEI - Montréal	QC	209	297	492	96	178
	SEPP - Sarnia	ON	2 410	9	8	3 135	2 291
	Ultramar Limitée – St. Romuald	QC	4	6	6	9	6
Importer	North 60 Petro	YT	500	500	-	350	420
	North Atlantic	NL	993	-	-	-	993
National Average			871	1 062	632	621	789

Table D.5c: Volume-Weighted Quarterly Sulphur Levels in Light Fuel Oil for 2011

		Sulphur Levels (mg/kg)					
		Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	IOL - Dartmouth	NS	1 370	2 200	1 350	1 040	1 423
	Irving Oil	NB	1 839	1 730	1 480	1 652	1 716
	Newalta	BC	140	270	130	25	150
	North Atlantic	NL	1 986	341	225	1 787	1 346
	NOVA Chemicals	ON	1 406	1 342	1 413	1 184	1 313
	SEI - Fort McMurray	AB	2 764	2 783	2 412	2 556	2 648
	SEI - Montréal	QC	322	636	605	530	435
	SEPP - Sarnia	ON	2 590	-	-	1 418	1 828
	Ultramar Limitée – St. Romuald	QC	10	7	7	9	9
Importer	North 60 Petro	YT	350	250	580	580	333
National Average			977	1 270	991	850	988

Table D.5d: Volume-Weighted Quarterly Sulphur Levels in Light Fuel Oil for 2012

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	IOL - Dartmouth	NS	710	1 360	740	1 050	905
	Irving Oil	NB	1 633	1 649	2 645	1 932	1 814
	Newalta	BC	110	180	110	60	106
	North Atlantic	NL	1 822	301	301	1 516	1 229
	NOVA Chemicals	ON	1 040	1 020	810	900	938
	SEI - Fort McMurray	AB	2 757	2 810	2 839	2 655	2 734
	SEI - Montréal	QC	438	516	42	45	249
	SEPP - Sarnia	ON	1 215	-	-	-	1 215
	Ultramar Limitée – St. Romuald	QC	7	7	7	6	7
Importer	AFD Petroleum Limited	AB	1 030	425	-	-	998
	IOL – Sept Isles	QC	1	-	-	-	1
	North 60 Petro	YT	580	70	6	6	156
National Average			706	938	679	696	730

Table D.6a: Volume-Weighted Annual Sulphur Levels in Heavy Fuel Oil, 1995-2012

		Sulphur Levels (mg/kg)																			
Name	Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		
Refiner	CCRL	SK	8 313	12 315	11 207	8 986	8 870	10 640	7 032	9 122	8 742	5 531	6 244	6 669	4 772	6 129	6 077	4 824	5 296	5 341	
	Chevron Burnaby Refinery	BC	14 663	17 832	15 153	15 107	17 880	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Husky Oil – Prince George	BC	26 300	16 636	13 800	19 549	20 340	17 200	14 818	16 976	21 185	23 878	23 577	21 937	-	-	10	-	-	-	
	IOL – Dartmouth	NS	14 698	13 590	12 664	15 820	13 540	14 130	14 959	12 553	13 778	14 836	13 124	11 747	11 905	11 529	10 258	9 929	10 777	10 438	
	IOL – Edmonton	AB	15 302	15 080	15 493	13 697	12 660	12 930	13 864	13 598	14 378	14 014	15 025	17 601	18 156	17 931	16 805	16 261	15 334	15 296	
	IOL – Nanticoke	ON	23 022	23 325	25 815	27 319	22 780	17 030	14 610	12 613	11 294	17 208	16 033	16 962	18 059	19 645	20 196	20 571	25 085	27 860	
	IOL – Sarnia	ON	21 970	20 153	21 840	22 530	19 900	17 980	19 465	14 922	17 846	19 000	17 860	20 448	21 000	-	21 430	24 200	-	24 580	
	Irving Oil	NB	20 850	18 612	18 396	18 409	17 800	16 270	17 454	15 917	16 781	13 471	17 965	15 215	16 350	15 945	18 504	15 898	17 625	-	
	Newalta	BC	-	-	-	-	-	-	-	-	-	6 444	6 038	6 880	4 975	4 689	4 750	4 058	4 010	3 599	
	North Atlantic	NL	17 876	22 302	28 323	26 460	28 070	28 410	26 267	-	24 368	21 500	-	-	-	-	-	-	-	-	
	NOVA Chemicals	ON	11 840	11 990	13 520	14 690	13 870	11 750	11 751	12 411	11 584	11 990	10 872	10 051	9 930	10 586	8 514	10 705	12 121	11 009	
	PC – Edmonton	AB	23 009	26 568	25 890	23 736	22 160	24 500	22 128	21 219	21 839	15 821	-	-	-	-	-	-	-	-	
	PC – Montréal	QC	20 644	22 130	21 072	19 730	15 450	18 810	17 034	16 348	15 100	12 458	11 558	12 295	12 718	12 674	-	-	-	-	
	PC – Oakville	ON	14 702	15 029	15 848	16 099	14 270	14 240	13 425	14 540	12 070	13 045	10 761	-	-	-	-	-	-	-	
	SCL – Corunna	ON	25 835	27 398	28 326	26 485	25 130	25 540	25 736	24 339	24 335	22 829	23 130	23 735	23 615	21 376	19 361	21 007	22 270	22 828	
	SCL – Montréal	QC	17 723	19 447	18 230	17 679	15 960	14 210	15 828	12 890	12 782	14 712	15 409	17 003	15 088	13 334	14 656	10 670	-	-	
	SEI - Montréal	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12 185	12 762	12 090	9 853	
	SEPP – Sarnia	ON	17 317	18 351	20 169	20 539	17 220	20 240	18 239	19 480	18 561	17 741	20 161	20 328	20 993	14 976	-	17 891	8 198	12 740	
	Ultramar Limitée – St. Romuald	QC	8 324	10 070	11 361	11 440	11 100	10 990	10 165	9 790	9 626	8 666	9 155	6 722	7 820	7 450	10 177	10 868	9 981	9 863	
Importer	1329606 Ontario Limited	ON	-	-	-	-	-	-	-	-	-	-	-	4 318	7 115	11 657	2 509	-	-	-	
	Alcan Inc – Vaudreuil	QC	-	-	-	-	-	-	-	-	-	-	-	-	19 401	15 654	-	-	-	-	
	ArcelorMittal – Port Cartier	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	15 898	-	-	-	-	
	Birchwood Trading Inc	Minnesota	-	-	-	-	-	-	-	-	-	-	-	-	-	13 608	11 500	9 967	11 191	-	
	Catalyst Paper - Crofton	BC	-	-	-	-	-	-	-	-	-	-	-	8 148	7 462	9 467	-	-	-	-	
	Catalyst Paper – Elk Falls	BC	-	-	-	-	-	-	-	-	-	-	-	7 153	6 010	-	-	-	-	-	
	Cervini Farms - Leamington	ON	-	-	-	-	-	-	-	-	-	15 000	13 500	13 500	4 000	3 560	11 500	-	-	-	-
	Cliffs Natural Resources – Mines Wabush	QC	-	-	-	-	-	-	-	-	-	-	19 102	18 459	19 292	17 441	14 154	18 296	18 507	11 260	

Name	Province/ State	Sulphur Levels (mg/kg)																						
		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012					
Importer	Companie Minière de Québec Cartier	QC	-	-	-	-	-	-	-	-	15 944	-	17 563	17 619	16 143	-	-	-	-	-				
	Compaq Papiers - Québec	QC	-	-	-	-	-	-	-	19 259	-	-	-	-	-	-	-	-	-	-				
	Elbow River - Vopak Terminals	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8 900	-	-				
	Emera Fuels	NS	-	-	-	-	-	-	-	27 200	-	-	-	-	-	-	-	-	-	-				
	Fraser Papers	NB	-	-	-	-	4 280	3 980	4 214	4 379	4 634	4 656	4 613	4 721	4 002	-	-	-	-	-	-			
	Great Lakes Greenhouses Inc.	ON	-	-	-	-	-	-	-	-	15 060	15 932	10 396	9 063	12 547	11 554	1 832	2 766	-	-	-			
	Kildair Services	QC	-	-	-	4 150	8 290	18 080	8 006	15 000	8 355	9 230	4 751	5 300	-	-	-	12 746	13 489	-	-			
	Marine Petrobulk	BC	-	-	-	-	-	17 920	24 000	16 390	18 406	18 796	18 500	18 500	18 363	18 081	18 479	18 600	18 600	18 600	-			
	Murphy Oil USA	Wisconsin	-	-	-	45 710	18 230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Nanaimo Forest Products - Harmac	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9 049	10 100	9 500	-	-	-		
	NB Power Generation Corporation	NS	-	-	-	-	-	-	-	-	-	-	-	-	26 071	25 737	-	-	-	-	-	-		
	Neucel Specialty Cellulose	BC	-	-	-	-	-	-	-	-	-	-	-	-	11 754	10 137	9 779	12 350	13 213	11 705	-	-	-	
	New Brunswick Power	NB	-	-	-	27 360	27 820	27 800	27 269	25 194	25 541	27 419	27 206	27 026	-	25 737	24 343	25 825	-	-	-	-	-	
	Newalta	BC	-	-	-	-	-	-	-	-	-	-	4 305	-	-	-	-	-	-	-	-	-	-	
	Newfoundland & Labrador Hydro	NL	-	-	-	19 960	19 940	20 970	20 600	20 186	20 604	20 941	19 424	9 214	9 232	9 118	-	-	6 946	6 936	-	-	-	
	Newfoundland & Labrador Hydro - Holyrood	NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7 525	6 836	-	-	-	-	-	
	Norske - Campbell River	BC	-	-	-	-	-	-	10 237	9 400	-	9 161	7 393	-	-	-	-	-	-	-	-	-	-	-
	Norske - Crofton	BC	-	-	-	-	-	-	-	9 871	-	9 835	6 599	-	-	-	-	-	-	-	-	-	-	-
	North 60 Petro	YT	-	-	-	6 530	3 440	2 430	4 313	4 288	4 250	3 830	-	-	-	-	-	-	-	-	-	-	-	-
	North Atlantic	NL	-	-	-	-	-	-	-	25 491	20 230	19 394	18 911	15 919	12 824	12 861	14 600	-	-	-	-	-	-	-
	Nova Scotia Power	NS	-	-	-	27 030	25 990	26 810	28 102	19 728	17 868	20 120	19 513	19 700	14 300	22 000	22 100	-	-	-	-	-	-	-
	Pope and Talbot	BC	-	-	-	-	-	10 600	10 216	10 749	9 646	10 036	9 246	9 731	9 352	9 700	-	-	-	-	-	-	-	-
	SCL - Ontario Imports	ON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16 600	-	-	-	-	
	SCL - QC Imports	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28 000	-	-	-	-	
	SEI - Montréal	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14 249	-	-	-	-	-	
	Stadacona - Quebec	QC	-	-	-	-	-	-	-	-	19 300	-	-	-	-	-	-	-	-	-	-	-	-	
	Statia Terminals Canada	NS	-	-	-	-	-	-	8 268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	STC - AB Imports	AB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3952	-	-	-	-	

		Sulphur Levels (mg/kg)																		
	Name	Province/ State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Importer	STC – Ontario Imports	ON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11 500
	STC – Quebec Imports	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9 145
	Texpar Energy	Wisconsin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12 000
	Tolko - Manitoba	MB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12 279	12 634	9 162	8 778
	Twin Rivers Paper Company - Edmundston	NB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4 774	4 640	4 922	4 638
	Vancouver General Hospital	BC	-	-	-	-	-	10 600	10 600	-	-	-	-	-	-	-	-	-	-	-
	Western Pulp – Port Alice	BC	-	-	-	-	-	14 510	14 840	13 478	13 822	12 873	-	-	-	-	-	-	-	-
	Western Pulp - Squamish	BC	-	-	-	-	-	-	11 000	-	-	-	-	-	-	-	-	-	-	-
National Average			16 761	17 300	17 250	17 220	17 710	17 400	17 280	15 366	15 347	15 763	16 470	14 692	14 874	15 315	15 394	15 686	14 585	12 657

Table D.6b: Volume-Weighted Quarterly Sulphur Levels in Heavy Fuel Oil for 2010

	Name	Province/State	Sulphur Levels (mg/kg)				
			Q1	Q2	Q3	Q4	Annual
Refiner	CCRL	SK	3 464	4 488	5 986	4 974	4 824
	IOL - Dartmouth	NS	10 153	10 782	9 656	9 242	9 929
	IOL - Edmonton	AB	17 606	16 215	15 460	15 575	16 261
	IOL - Nanticoke	ON	21 720	21 590	19 780	19 310	20 571
	IOL - Sarnia	ON	24 200	-	-	-	24 200
	Irving Oil	NB	16 400	14 200	14 800	17 000	15 898
	Newalta	BC	4 022	3 791	4 426	4 059	4 058
	NOVA Chemicals	ON	8 493	11 040	10 878	12 060	10 705
	SCL - Corunna	ON	20 889	20 877	18 554	22 943	21 007
	SCL - Montréal	QC	13 445	9 817	7 900	8 300	10 670
	SEI - Montréal	QC	11 474	11 792	14 671	12 875	12 762
	SEPP - Sarnia	ON	-	20 310	19 680	7 320	17 891
Importer	Ultramar Limitée – St. Romuald	QC	11 978	11 099	9 900	11 000	10 868
	Birchwood Trading Inc.	Minnesota	12 400	-	10 000	9 290	9 967
	Cliffs Natural Resources – Mines Wabush	QC	-	17 900	-	18 700	18 296
	Great Lakes Greenhouses Inc.	ON	1 899	1 853	1 718	1 798	1 832
	Marine Petrobulk	BC	18 600	18 600	18 600	18 600	18 600
	Nanaimo Forest Products - Harmac	BC	-	-	-	10 100	10 100
	Neucel Specialty Cellulose	BC	11 240	11 980	12 540	13 300	12 350
	New Brunswick Power	NB	25 300	26 200	25 600	-	25 825
	Newfoundland & Labrador Hydro - Holyrood	NL	6 830	-	-	6 850	6 836
	SEI - Montréal	QC	-	-	14 671	12 875	14 249
	Tolko - Manitoba	MB	-	-	12 634	-	12 634
National Average			17 229	16 000	14 938	14 227	15 686

Table D.6c: Volume-Weighted Quarterly Sulphur Levels in Heavy Fuel Oil for 2011

		Province/State	Sulphur Levels (mg/kg)				
			Q1	Q2	Q3	Q4	Annual
	Name						
Refiner	CCRL	SK	5 724	6 553	5 285	4 244	5 296
	IOL - Dartmouth	NS	11 346	9 443	13 100	10 371	10 777
	IOL - Edmonton	AB	15 711	15 634	14 971	15 014	15 334
	IOL - Nanticoke	ON	23 330	22 480	25 770	26 900	25 085
	Irving Oil	NB	18 800	14 500	15 000	16 000	17 625
	Newalta	BC	4 568	4 078	3 792	3 581	4 010
	NOVA Chemicals	ON	12 850	12 170	12 010	11 950	12 121
	SCL - Corunna	ON	18 957	20 935	22 980	23 879	22 270
	SEI - Montréal	QC	11 755	12 336	14 656	10 902	12 090
	SEPP - Sarnia	ON	12 320	6 460	9 070	-	8 198
Importer	Ultramar Limitée – St. Romuald	QC	9 600	10 000	10 400	10 100	9 981
	Birchwood Trading Inc.	Minnesota	11 100	11 800	11 300	10 200	11 191
	Cliffs Natural Resources – Mines Wabush	QC	-	-	18 900	18 300	18 507
	Elbow River – Vopak Terminals	QC	-	8 900	8 900	8 900	8 900
	Great Lakes Greenhouses Inc.	ON	1 000	-	3 800	2 960	2 766
	Kildair Services	QC	12 300	10 900	8 800	16 300	12 746
	Marine Petrobulk	BC	18 600	18 600	18 600	18 600	18 600
	Nanaimo Forest Products - Harmac	BC	-	-	-	9 500	9 500
	Neucel Specialty Cellulose	BC	13 400	13 300	12 800	13 600	13 213
	Newfoundland & Labrador Hydro	NL	6 920	-	-	7 000	6 946
	SCL – Ontario Imports	ON	-	-	-	16 600	16 600
	SCL – QC Imports	QC	-	-	-	28 000	28 000
National Average	Tolko - Manitoba	MB	11 300	11 300	6 650	6 800	9 162
	Twin Rivers Paper Company - Edmundston	NB	4 870	4 870	4 990	4 990	4 922

Table D.6d: Volume-Weighted Quarterly Sulphur Levels in Heavy Fuel Oil for 2012

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	CCRL	SK	4 858	5 710	5 926	4 896	5 341
	IOL - Dartmouth	NS	9 186	10 742	10 590	11 545	10 438
	IOL - Edmonton	AB	15 041	15 388	15 503	-	15 296
	IOL - Nanticoke	ON	26 940	27 050	27 120	30 000	27 860
	IOL - Sarnia	ON	-	24 300	25 400	-	24 580
	Newalta	BC	3 131	3 936	3 947	3 394	3 599
	NOVA Chemicals	ON	11 130	11 250	10 700	10 950	11 009
	SCL - Corunna	ON	21 585	21 412	25 785	21 856	22 828
	SEI - Montréal	QC	9 869	9 916	9 946	9 534	9 853
	SEPP - Sarnia	ON	14 160	9 340	7 910	14 980	12 740
Importer	Ultramar Limitée – St. Romuald	QC	8 800	9 800	10 900	9 900	9 863
	Cliffs Natural Resources – Mines Wabush	QC	-	-	10 800	11 700	11 260
	Kildair Services	QC	9 000	12 100	14 900	15 000	13 489
	Marine Petrobulk	BC	18 600	18 600	18 600	18 600	18 600
	Neucel Specialty Cellulose	BC	12 800	13 000	10 800	13 000	11 705
	Newfoundland & Labrador Hydro	NL	6 990	6 940	-	6 680	6 936
	STC – AB Imports	AB	3 900	3 500	4 400	3 900	3 952
	STC – Ontario Imports	ON	-	-	-	11 500	11 500
	STC – Quebec Imports	QC	6 300	6 700	-	9 700	9 145
	Texpar Energy	Wisconsin	12 000	12 000	12 000	12 000	12 000
	Tolko - Manitoba	MB	4 900	-	8 200	11 100	8 778
Twin Rivers Paper Company - Edmundston			NB	4 830	4 830	4 580	4 638
National Average			10 092	13 618	15 624	13 767	12 657

Table D.7a: Volume-Weighted Annual Sulphur Levels in Aviation Gasoline, 2001-2012

			Sulphur Levels (mg/kg)											
	Name	Province/State	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Refiner	IOL - Edmonton	AB	-	10	10	10	11	10	11	9	10	10	8	3
	PC - Edmonton	AB	-	-	206	400	334	248	370	342	-	-	-	-
	SCL - Montréal	QC	14	50	10	1	1	1	1	1	1	1	-	-
	SEI - Edmonton	AB	352	229	-	-	-	-	-	-	0	1	1	
Importer	IOL - Burnaby	BC	30	-	-	-	-	-	-	-	-	-	-	-
	IOL - Edmonton	AB	10	-	-	-	-	-	-	-	-	-	-	-
	Larry Penner - Winnipeg	MB	-	-	-	-	-	-	-	10	10	10	10	10
	SCL - Montréal	QC	-	-	-	-	-	-	1	-	-	-	-	-
	SCL - QC Imports	QC	-	-	-	-	-	-	-	-	-	8	-	-
	STC - Quebec Imports	QC	-	-	-	-	-	-	10	-	-	8	10	6
	WPC - BC	BC	-	-	-	-	-	-	-	-	-	10	12	20
	WPC - Manitoba	MB	-	-	-	-	-	-	-	-	-	10	-	16
National Average			51	59	35	59	43	32	27	13	6	5	8	4

Note: Sulphur levels in aviation gasoline were averaged with motor gasoline levels for the years 1995 to 2000. See Table D.1a.

Table D.7b: Volume-Weighted Quarterly Sulphur Levels in Aviation Gasoline for 2010

	Name	Province/State	Sulphur Levels (mg/kg)				
			Q1	Q2	Q3	Q4	Annual
Refiner	IOL - Edmonton	AB	10	10	10	10	10
	SCL - Montréal	QC	1	1	1	1	1
	SEI - Edmonton	AB	-	-	0	-	0
Importer	Larry Penner - Winnipeg	MB	10	10	10	10	10
	STC – Quebec Imports	QC	-	-	8	-	8
	WPC - BC	BC	10	10	10	10	10
	WPC – Manitoba	MB	-	10	-	-	10
	WPC - Ontario	ON	-	-	10	-	10
National Average			5	5	5	6	5

Table D.7c: Volume-Weighted Quarterly Sulphur Levels in Aviation Gasoline for 2011

	Name	Province/State	Sulphur Levels (mg/kg)				
			Q1	Q2	Q3	Q4	Annual
Refiner	IOL - Edmonton	AB	10	10	6	4	8
	SEI - Edmonton	AB	1	1	1	1	1
Importer	Larry Penner - Winnipeg	MB	10	10	10	10	10
	SCL – QC Imports	QC	-	5	10	-	8
	STC – Quebec Imports	QC	10	10	-	8	10
	WPC - BC	BC	10	10	10	15	12
	WPC – Ontario	ON	-	15	10	15	14
National Average			10	9	7	5	8

Table D.7d: Volume-Weighted Quarterly Sulphur Levels in Aviation Gasoline for 2012

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	IOL - Edmonton	AB	3	3	3	5	3
	SEI - Edmonton	AB	1	-	1	1	1
Importer	Larry Penner - Winnipeg	MB	10	10	-	-	10
	STC – Quebec Imports	QC	20	9	2	-	6
	WPC - BC	BC	20	20	-	-	20
	WPC – Manitoba	MB	-	-	16	-	16
	WPC - Ontario	ON	20	-	-	-	20
National Average			4	6	3	5	4

Table D.8a: Volume-Weighted Annual Sulphur Levels in Aviation Turbo (Jet) Fuel, 1995-2012

		Sulphur Levels (mg/kg)																		
Name		Province/State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Refiner	Chevron Burnaby Refinery	BC	410	447	-	605	1 006	1 129	745	781	741	637	720	891	892	772	876	689	694	917
	IOL - Dartmouth	NS	542	447	-	776	522	657	750	1 003	727	881	736	541	595	496	567	488	870	1 271
	IOL - Edmonton	AB	-	436	-	491	483	484	527	536	485	536	531	222	1	1	3	2	1	1
	IOL - Nanticoke	ON	-	1 714	-	2 015	1 340	989	823	810	466	939	840	781	807	1 004	939	867	1 063	1 185
	IOL - Sarnia	ON	449	86	-	99	76	83	94	100	100	100	64	12	6	4	9	10	11	22
	Irving Oil	NB	1 657	1 708	-	1 853	1 738	1 719	1 777	2 263	2 263	2 316	2 256	2 290	2 135	2 199	2 007	2 003	2 104	1 994
	North Atlantic	NL	-	-	-	2 119	1 787	1 808	2 264	2 097	1 383	1 222	1 769	2 123	2 512	2 067	1 155	1 667	2 359	2 059
	PC - Edmonton	AB	-	2	-	13	7	-	12	-	6	4	7	5	5	4	-	-	-	-
	PC - Montréal	QC	-	157	-	84	110	1 297	947	914	1 120	938	-	-	-	-	-	-	-	-
	PC - Oakville	ON	-	627	-	731	478	360	326	319	249	267	-	-	-	-	-	-	-	-
	SCL - Corunna	ON	-	100	-	633	532	377	429	1 217	1 250	1 568	1 205	956	564	1 065	346	415	500	500
	SCL - Fort Saskatchewan	AB	-	50	-	50	100	100	90	100	100	100	100	100	100	100	100	100	100	100
	SCL - Montréal	QC	449	445	-	291	262	334	285	256	319	574	481	565	415	347	255	177	-	-
	SEI - Edmonton	AB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	1	1
	SEPP - Sarnia	ON	-	700	-	1 259	1 034	993	1 082	1 570	1 311	1 079	1 231	876	637	686	619	740	644	512
	Ultramar Limitée – St. Romuald	QC	-	-	-	267	399	496	371	345	267	259	44	83	29	8	9	25	17	24
Importer	AFD Petroleum Limited	AB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	88	
	Air Canada – Hamilton	ON	-	-	-	-	-	-	-	-	683	-	589	438	-	-	-	-	-	-
	Air Canada – Quebec	QC	-	-	-	-	-	-	-	1 312	347	1 277	626	1 007	494	-	-	-	-	-
	Air Canada - Westridge	BC	-	-	-	-	-	-	-	631	322	584	759	933	1 090	757	1 213	800	1 032	
	Air North Whitehorse Airport	YT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	807	
	BP Cherry Point	Washington	-	-	-	-	-	534	606	461	599	789	643	655	831	970	-	-	-	-
	CFS Alert	NU	-	-	-	-	-	-	-	-	-	-	-	0	970	-	1 390	2040	813	
	Chevron Burnaby Refinery	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	659	
	ERS Inc.	YT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 690	1 576	
	ERS Inc. - Edmonton	AB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	903	-	
	IOL - Burnaby	BC	-	-	-	193	234	370	110	-	330	240	25	3	3	3	-	6	4	4
	IOL - Dartmouth	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	946	-	
	IOL – Eastern Passage	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	575	-	
	IOL - Nanticoke	ON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	953	-	
	IOL – Quebec City	QC	-	-	-	-	-	-	-	-	-	-	-	336	541	-	-	-	-	

		Sulphur Levels (mg/kg)																		
Name	Province/State	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Importer	IOL – Sept Isles	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	575	-	-	
	Larry Penner - Winnipeg	MB	-	-	-	-	-	-	-	-	-	-	-	-	-	30	30	30	30	
	Mackenzie	YT	-	-	-	-	1 000	1 000	900	800	830	658	743	643	-	-	-	-	-	
	MSCG - Montreal	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	1 000	-	560	-	
	MSCG - Québec	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	554	440	352	9	
	NOCO Energy Canada Inc.	ON	-	-	-	-	-	182	169	240	-	273	-	-	-	-	-	-	-	
	North 60 Petro	YT	-	-	-	-	1 000	1 000	-	-	724	738	-	-	-	-	1 300	88	5	
	North Atlantic	NL	-	-	-	-	-	-	-	-	-	-	-	-	1 780	-	1 244	-	-	
	Northern Transportation – Hay River	NT	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	
	Northern Transportation - Iqaluit	NU	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	
	PaceSetter Enterprises	YT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	267	786	939	
	PC – Burrard Products T. - Imports	BC	-	-	-	174	234	316	5	10	133	143	393	6	5	3	-	-	-	
	Pétroles Norcan – Norcan Terminal	QC	-	447	-	-	203	-	-	99	-	-	3	-	-	-	-	-	-	
	SCL – BC Imports	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	593	100	
	SCL - Montréal	QC	-	-	-	-	-	-	-	-	458	316	621	500	300	-	-	-	-	
	SCL – Port of Montréal	QC	-	-	-	-	-	-	-	-	-	-	-	1 200	-	-	-	-	-	
	SCL – QC Imports	QC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 036	
	SCL – Shellburn Terminal, Burnaby	BC	-	-	-	-	-	-	-	-	100	337	311	478	100	-	-	-	-	
	SEI – Port Moody	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	4	4	
	STC – BC Imports	BC	-	-	-	-	-	-	-	-	-	-	-	-	100	100	100	-	-	
	STC – Ontario Imports	ON	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	
	STC – Quebec Imports	QC	-	-	-	-	-	-	-	-	-	-	-	1 582	813	658	582	897	691	
	TAG – Kinder Morgan Vancouver Wharves	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	
	TCGP – Chevron Refinery and Suncor Burrard Terminal	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TCGP – Horizon Marine and Newmont Mining	NT and NU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	
	TCGP – Kinder Morgan Vancouver Wharves	BC	-	-	-	-	-	-	-	-	-	-	-	-	-	4	7	4	2	
	Ultramar Limitée - Holyrood	NL	-	-	-	-	-	-	-	360	279	-	-	-	-	-	-	-	-	
	Ultramar Limitée - Montréal	QC	-	-	-	-	-	-	-	775	-	426	-	454	214	600	304	889	1 167	-
	Ultramar Limitée – St. Romuald	QC	-	-	-	-	-	-	-	-	240	-	170	-	-	-	-	-	-	
	WPC - Manitoba	MB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	154	-	
National Average		-	-	-	-	-	-	-	-	775	615	578	654	549	582	575	469	454	559	539

Table D.8b: Volume-Weighted Quarterly Sulphur Levels in Aviation Turbo (Jet) Fuel for 2010

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	Chevron Burnaby Refinery	BC	750	650	690	660	689
	IOL - Dartmouth	NS	470	630	388	450	488
	IOL - Edmonton	AB	2	2	2	2	2
	IOL – Nanticoke	ON	890	840	800	930	867
	IOL - Sarnia	ON	15	11	10	4	10
	Irving Oil	NB	2 021	2 112	1 659	2 139	2 003
	North Atlantic	NL	1 010	1 320	2 070	2 100	1 667
	SCL – Corunna	ON	400	400	400	500	415
	SCL – Fort Saskatchewan	AB	100	100	100	100	100
	SCL – Montreal	QC	200	200	100	100	177
	SEI – Edmonton	AB	1	1	1	1	1
	SEPP – Sarnia	ON	688	668	793	767	740
	Ultramar Limitée – St. Romuald	QC	5	31	18	-	25
Importer	Air Canada - Westridge	BC	1 247	1 361	1 462	938	1 213
	CFS Alert	NU	-	-	1 390	-	1 390
	IOL – Burnaby	BC	-	3	9	4	6
	IOL – Sept Isles	QC	-	-	-	575	575
	Larry Penner - Winnipeg	MB	30	30	30	30	30
	MSCG – Quebec	QC	-	-	-	440	440
	North 60 Petro	YT	-	-	1 300	1 300	1 300
	North Atlantic	NL	1 010	1 320	-	-	1 244
	PaceSetter Enterprises	YT	-	-	-	267	267
	SCL – BC Imports	BC	100	-	-	-	100
	SEI – Port Moody	BC	-	-	6	-	6
	STC – BC Imports	BC	100	100	100	100	100
	STC – Quebec Imports	QC	300	900	600	600	582
	TCGP – Chevron Refinery and Suncor Burrard Terminal	BC	-	-	8	6	7
	TCGP – Horizon Marine and Newmont Mining	NT and NU	-	-	24	-	24
	TCGP – Kinder Morgan Vancouver Wharves	BC	-	-	8	6	7
	Ultramar Limitée - Montréal	QC	1 032	-	-	811	889
National Average				424	462	414	515
						454	

Table D.8c: Volume-Weighted Quarterly Sulphur Levels in Aviation Turbo (Jet) Fuel for 2011

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	Chevron Burnaby Refinery	BC	720	670	720	650	694
	IOL - Dartmouth	NS	960	1 050	770	770	870
	IOL - Edmonton	AB	1	1	2	1	1
	IOL - Nanticoke	ON	900	1 330	1 020	1 120	1 063
	IOL - Sarnia	ON	9	11	12	15	11
	Irving Oil	NB	2 087	2 069	1 679	2 233	2 104
	North Atlantic	NL	2 630	2 180	2 420	2 300	2 359
	SCL - Corunna	ON	500	500	500	500	500
	SCL – Fort Saskatchewan	AB	100	100	100	100	100
	SEI - Edmonton	AB	1	1	1	1	1
	SEPP – Sarnia	ON	633	544	825	567	644
	Ultramar Limitée – St. Romuald	QC	21	13	20	18	17
Importer	AFD Petroleum Limited	AB	-	-	-	9	9
	Air Canada - Westridge	BC	1 108	1 335	272	621	800
	CFS Alert	NU	0	2 161	1 074	1 035	2 040
	ERS Inc.	YT	-	-	-	1 690	1 690
	ERS Inc. - Edmonton	AB	-	1 059	814	-	903
	IOL - Burnaby	BC	5	4	4	3	4
	IOL - Dartmouth	NS	-	1 050	770	-	946
	IOL – Eastern Passage	NS	575	-	-	-	575
	IOL - Nanticoke	ON	900	1 330	-	-	953
	Larry Penner - Winnipeg	MB	30	30	30	30	30
	MSCG - Montreal	QC	560	-	-	-	560
	MSCG - Quebec	QC	-	-	352	-	352
	North 60 Petro	YT	500	20	4	4	88
	PaceSetter Enterprises	YT	593	907	753	879	786
	SCL – BC Imports	BC	100	600	900	500	593
	SEI – Port Moody	BC	-	-	1	5	4
	STC – Quebec Imports	QC	800	800	1 100	800	897
	TCGP – Kinder Morgan Vancouver Wharves	BC	4	4	3	3	4
	Ultramar Limitée - Montréal	QC	1 140	-	529	1 221	1 167
	WPC - Manitoba	MB	214	208	197	190	200
National Average				574	491	514	670
							559

Table D.8d: Volume-Weighted Quarterly Sulphur Levels in Aviation Turbo (Jet) Fuel for 2012

		Sulphur Levels (mg/kg)					
	Name	Province/State	Q1	Q2	Q3	Q4	Annual
Refiner	Chevron Burnaby Refinery	BC	523	860	1 000	1 250	917
	IOL - Dartmouth	NS	1 830	1 000	840	1 570	1 271
	IOL - Edmonton	AB	1	1	1	1	1
	IOL - Nanticoke	ON	1 390	1 130	1 020	1 210	1 185
	IOL - Sarnia	ON	20	8	22	31	22
	Irving Oil	NB	2 000	2 035	2 431	1 837	1 994
	North Atlantic	NL	2 370	2 220	1 970	1 520	2 059
	SCL - Corunna	ON	500	500	500	500	500
	SCL – Fort Saskatchewan	AB	100	100	100	100	100
	SEI - Edmonton	AB	1	1	1	1	1
	SEPP – Sarnia	ON	434	383	563	652	512
	Ultramar Limitée – St. Romuald	QC	14	20	29	-	24
Importer	AFD Petroleum Limited	AB	-	88	83	97	88
	Air Canada - Westridge	BC	564	927	854	2 041	1 032
	Air North Whitehorse Airport	YT	922	1 013	742	559	807
	CFS Alert	NU	360	1 003	775	-	813
	Chevron Burnaby Refinery	BC	523	860	1 000	-	659
	ERS Inc.	YT	2 340	10	1 932	-	1 576
	IOL - Burnaby	BC	3	4	4	4	4
	Larry Penner - Winnipeg	MB	30	30	30	-	30
	MSCG - Quebec	QC	-	-	-	9	9
	North 60 Petro	YT	4	6	5	2	5
	PaceSetter Enterprises	YT	853	832	1 090	947	939
	SCL – BC Imports	BC	100	100	100	100	100
	SCL – QC Imports	QC	1 200	1 300	-	700	1 036
	SEI – Port Moody	BC	4	-	5	4	4
	STC – Quebec Imports	QC	1 000	800	500	400	691
	TAG – Kinder Morgan Vancouver Wharves	BC	2	-	2	-	2
	TCGP – Kinder Morgan Vancouver Wharves	BC	2	-	-	-	2
	WPC - Manitoba	MB	157	152	153	-	154
National Average				607	529	442	597
							539

Appendix E: Canadian General Standards Board Standards for Sulphur Content in Fuels

Specification Number	Fuel Category	Maximum Sulphur Content (mg/kg)
CAN/CGSB-3.5-2011 (Amend. No. 1 Jun. 2012) CAN/CGSB-3.511-2011 (Amend. No. 1 Jun. 2012)	Gasoline Unleaded, Automotive	80
	Oxygenated Unleaded Automotive (containing Ethanol) (E1-E10)	80
CAN/CGSB-3.512-2011	Automotive Ethanol Fuel (E50-E85)	80
CAN/CGSB-3.23-2012 (Amend. No. 1 May. 2013) CAN/CGSB-3.22-2012 CAN/CGSB-3.24-2012 (Amend. No. 1 May. 2013)	Aviation Turbine Fuel Kerosene Type (Jet A, Jet A-1)	3 000
	Wide Cut Type (Jet B)	3 000 ²
	Military Grades (F-34, F-44)	3 000
CAN/CGSB-3.3-2014	Kerosene Type No. 1-K	400
	Type No. 2-K	3 000
CAN/CGSB 3.6-2010 CAN/CGSB-3.517-2013 CAN/CGSB-3.18-2010 CAN/CGSB-3.520-2011 CAN/CGSB-3.522-2010	Diesel Fuel Off-Road Diesel Fuel	15 ³
	Diesel Fuel	15
	Diesel Fuel for Locomotive-Type Medium-Speed Diesel Engines	500
	Automotive Diesel Fuel Containing Low Levels of Biodiesel Esters (B1-B5)	15
	Diesel Fuel containing Biodiesel (B6-B20)-Type B	15
CAN/CGSB-3.16-99 (Amend. No. 1 Apr. 2001)	Mining Diesel Fuel	Withdrawn
CAN/CGSB-3.2-2011	Heating Fuel Oil Type 0	3 000
	Type 1	3 000
	Type 2	5 000
	Type 4	No limit
	Type 5	No limit
	Type 6	No limit
CAN/CGSB-3.11-2010	Naval Distillate Fuel	500

² Changed to 3 000 mg/kg from 4000 mg/kg – CAN/CGSB-3.22-2012.

³ 500 mg/kg before September 30, 2010.

Specification Number	Fuel Category	Maximum Sulphur Content (mg/kg)
CAN/CGSB-3.27-2012	Naphtha Fuel	5

Appendix F: Maximum Sulphur Content in Fuels According to Federal and Provincial Regulations and Municipal By-Laws

Jurisdiction	Act/Regulation/By-Law	Regulation Adopted	Maximum Sulphur Content (% mass)			
Canada	<i>Canadian Environmental Protection Act, 1999</i> <i>Sulphur in Diesel Fuel Regulations (SOR/2002-254)⁴</i>	2002 (amended 2005, 2006 and 2012)	Diesel			
			Diesel fuel for use in:	Regulated Activity	Sulphur Limit	Effective Date
			Large Vessels (Marine Diesel)	Production, import or sales	0.1	June 1, 2014
			Large Stationary Engines	Production, import or sales	0.1	June 1, 2014
			Non-large Vessels	Production or import	0.0015	June 1, 2012
			Non-large Vessels	Sales	0.0015	June 1, 2014
			Non-large Vessels	Sales	0.05	October 1, 2007
			Small Stationary Engines	Production, import or sales	0.0015	June 1, 2014
			Rail (locomotive)	Production or import	0.0015	June 1, 2012
			Rail (locomotive)	Sales	0.05	October 1, 2007
			Off-road Engines	Production, import or sales	0.0015	Since 2010
			On-road Vehicles	Production, import or sales	0.0015	Since 2006

⁴ <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2002-254/FullText.html>

Jurisdiction	Act/Regulation/By-Law	Regulation Adopted	Maximum Sulphur Content (% mass)
Canada (continued)	<i>Canadian Environmental Protection Act, 1999 Sulphur in Gasoline Regulations (SOR/99-236)⁵</i>	1999 (amended 2000, 2003 and 2009)	Gasoline For primary suppliers choosing a "flat" limit: 0.004 (40 mg/kg) For primary suppliers choosing "pool average": 0.003 (30 mg/kg) Associated never-to-be-exceeded limits for those selecting "pool average": 0.008 (80 mg/kg)
New Brunswick	<i>Clean Air Act Air Quality Regulation (97-133)⁶</i>	1997	Fuel Oil Type No. 1 – 0.5 Type No. 2 – 0.5 Type No. 4 – 1.5 Type No. 5 – 2.0 Type No. 6b – 3.0 Type No. 6c – 3.0
Newfoundland and Labrador	<i>Environmental Protection Act Air Pollution Control Regulations⁷</i>	May 20, 2004 (amended 2010 and 2014)	Fuel Oil Any fuel oil grade Type No.'s. 4, 5 or 6: <ul style="list-style-type: none">• Where Best Available Technology (BAT) is employed:<ul style="list-style-type: none">- 3.0%, and- 2.0% on an annual basis.• Where BAT is not employed:<ul style="list-style-type: none">- 2.2%, and- 2.0% on an annual basis.
Nova Scotia	<i>Environment Act Air Quality Regulations⁸</i>	March 2005 (amended 2009, 2010)	Fuel Oil – 2.2% by mass, and – 2.0% on an annual basis.
Prince Edward Island	<i>Petroleum Products Act Petroleum Products Act Regulations⁹</i>	March 2001	Minimum specifications for the type or grade of petroleum product as issued by the Canadian General Standards Board (CGSB) or Public Utilities Commission.

⁵ <http://laws-lois.justice.gc.ca/eng/regulations/SOR-99-236/FullText.html>

⁶ <http://laws.gnb.ca/en/showfulldoc/cr/97-133//20140411>

⁷ www.assembly.nl.ca/Legislation/sr/Regulations/rc040039.htm

⁸ www.gov.ns.ca/just/regulations/reqs/envairqt.htm

⁹ www.irac.pe.ca/document.aspx?file=legislation/PetroleumProductsActRegulations.asp

Jurisdiction	Act/Regulation/By-Law	Regulation Adopted	Maximum Sulphur Content (% mass)
Quebec	Petroleum Products Act <i>Petroleum Products Regulation</i> ¹⁰	2007	<p>Incorporates CGSB standards (including sulphur limits as follows):</p> <p>Gasoline (CAN/CGSB 3.5-2011): Grades 1, 2, 3, 4 = 0.0080</p> <p>Gasoline containing fuel ethanol (CAN/CGSB 3.511-2005) = 0.0080</p> <p>Diesel</p> <ul style="list-style-type: none"> - Off Road Diesel Fuel (CAN/CGSB 3.6-2010) = 0.0015 - Automotive Diesel Fuel (CAN/CGSB 3.517-2013) = 0.0015 <p>Diesel fuel containing biodiesel fuel B1-B5 (CAN/CGSB 3.520-2011) = 0.0015 B6-B20 (CAN/CGSB 3.522-2010) = 0.0015</p> <p>Heating Fuel Oil: (CAN/CGSB 3.2-2013)</p> <ul style="list-style-type: none"> - Types Nos. 0, 1 = 0.3 - Type No. 2 = 0.5 - Types Nos. 4, 5, 6 = no limit <p>Aviation Fuel:</p> <ul style="list-style-type: none"> - Type 1 Aviation Gasoline (CAN/CGSB 3.25-2004) Withdrawn¹¹ - Type 2 Aviation Turbine Fuel: <ul style="list-style-type: none"> - Jet A, Jet A-1 (CAN/CGSB 3.23-2005) = 0.3 - Jet B (CAN/CGSB 3.22-2002) = 0.3 - F-34 and F-44 (CAN/CGSB 3.24-2012) = 0.3
	Environment Quality	1981	Fuel Oil

¹⁰ http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/P_30_01/P30_01R1_A.HTM

¹¹ Withdrawn December 2009.

Jurisdiction	Act/Regulation/By-Law	Regulation Adopted	Maximum Sulphur Content (% mass)
	Act <i>Regulation Respecting the Quality of the Atmosphere</i> ¹²	(amended in 2003, 2011)	Light Oil (LFO) = 0.5% Intermediate Oil = 1.0% Heavy Oil (HFO) = 2.0%
	Environment Quality Act <i>Clean Air Regulation</i> ¹³	2011	Fuel Oil for use in stationary internal combustion engines Light Oil (LFO) = 0.5% Heavy Oil (HFO) = 1.5%
	By-Law 90, Montreal Urban Community ¹⁴	1987 (amended 1996, 1998, 2000 and 2001)	Fuel Oil LFO Type No. 2 = 0.4% HFO Type No. 6 = 1.25 to 1.4%
Ontario	Environmental Protection Act <i>Regulation 361, Sulphur Content of Fuels</i> ¹⁵ (effective in Metro Toronto only)	1970 (amended 1980, 1990 and 1999)	Fuel Oil Type No. 1 – 0.5 Type No. 2 – 0.5 Type No. 4 – 1.5 Type No. 5 – 1.5 Type No. 6b – 1.5 Type No. 6c – 1.5
	Environmental Protection Act <i>Regulation 338, Boilers Regulation</i> ¹⁶	1986 (amended in 1999, 2011)	Fuel Oil All Fuel Oils = 1.0
British Columbia	Environmental Management Act <i>Sulphur Content of Fuel Regulation</i> ¹⁷	1989 (amended in 2004)	Fuel for heating, generating steam or electricity, or combustion in industrial processes = 1.1
	Environmental Management Act <i>Cleaner Gasoline Regulation</i> (B.C. Reg. 498/95) ¹⁸ as amended by Order in Council No. 010 in January 2006.	1995 (amended in 2007, 2010 and 2011)	Gasoline = 0.0080 ¹⁹

¹² http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q_2/Q2R38_A.htm

¹³ http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=%2F%2FQ_2%2FQ2R4_1_A.htm

¹⁴ <http://ville.montreal.qc.ca/sel/sypre-consultation/afficherpdf?idDoc=7566&typeDoc=1>

¹⁵ http://www.e-laws.gov.on.ca/htmlregs/english/elaws_regs_900361_e.htm

¹⁶ http://www.e-laws.gov.on.ca/htmlregs/english/elaws_regs_900338_e.htm

¹⁷ www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/48_67_89

¹⁸ www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/14_498_95

¹⁹ Maximum sulphur content determined by reference to Canadian General Standards Board specifications (CAN/CGSB 3.5-2004).

Jurisdiction	Act/Regulation/By-Law	Regulation Adopted	Maximum Sulphur Content (% mass)
Yukon	<i>Environment Act</i> <i>Air Emissions Regulations</i>²⁰	1998	Fuel for heating, generating steam or electricity, or combustion in industrial processes = 1.1, except as authorized by a permit issued under these Regulations

²⁰ www.gov.yk.ca/legislation/regulations/oic1998_207.pdf

Appendix G: Sulphur Content in Fuel: Comparison of Levels Reported in 2010-2012 and Limits Set by the Canadian General Standards Board (CGSB)

Table G.1a: Reported sulphur content (%) versus CGSB standards in 2010

Type of Fuel	Reported Sulphur Content (wt%)			CGSB (wt% sulphur content)
	Low Value	National Average	High Value	
Aviation Turbo Fuel	0.0001	0.0454	0.3000	0.30 – Jet A (CAN/CGSB 3.23-2012)
				0.40 – Jet B (CAN/CGSB 3.22-2012)
Motor Gasoline	0.0000	0.0018	0.0071	0.008 (CAN/CGSB 3.511-2011)
Aviation Gasoline	0.0000	0.0005	0.001	Withdrawn ²¹
Kerosene/Stove Oil	0.0000	0.0062	0.0900	0.04 – Type No. 1 – K (CAN/CGSB 3.3-2014)
				0.30 – Type No. 2 – K (CAN/CGSB 3.3-2014)
Ultra Low Sulphur Diesel Fuel	0.0000	0.0005	0.0015	0.0015 – Diesel Fuel (CAN/CGSB 3.517-2013)
Low Sulphur Diesel Fuel	0.0002	0.0242	0.0500	0.0015 ²² – Off Road Diesel Fuel (CAN/CGSB 3.6-2010)
High Sulphur Diesel Fuel	0.0770	0.1243	0.1650	0.05 – Diesel Fuel for Locomotive Type Medium-Speed Diesel Engines (CAN/CGSB-3.18-2010)
Light Fuel Oil	0.0001	0.0789	0.4104	0.30 – Type No. 0 (CAN/CGSB 3.2-2011)
				0.50 – Type No. 1 (CAN/CGSB 3.2-2011)
				0.50 – Type No. 2 (CAN/CGSB 3.2-2011)
Heavy Fuel Oil	0.0000	1.5686	2.8600	No limits

²¹ Withdrawn December 2009.

²² 0.05 before September 30, 2010

Table G.1b: Reported sulphur content (%) versus CGSB standards in 2011

Type of Fuel	Reported Sulphur Content (wt%)			CGSB (wt% sulphur content)
	Low Value	National Average	High Value	
Aviation Turbo Fuel	0.0000	0.0558	0.4	0.30 – Jet A (CAN/CGSB 3.23-2012) 0.40 – Jet B (CAN/CGSB 3.22-2012)
Motor Gasoline	0.0000	0.0020	0.0079	0.008 (CAN/CGSB 3.511-2011)
Aviation Gasoline	0.0000	0.0008	0.0020	Withdrawn ²³
Kerosene/Stove Oil	0.0000	0.0024	0.4100	0.04 – Type No. 1 – K (CAN/CGSB 3.3-2014) 0.30 – Type No. 2 – K (CAN/CGSB 3.3-2014)
Ultra Low Sulphur Diesel Fuel	0.0000	0.0006	0.0015	0.0015 – Diesel Fuel (CAN/CGSB 3.517-2013) 0.0015 ²⁴ – Off Road Diesel Fuel (CAN/CGSB 3.6-2010)
Low Sulphur Diesel Fuel	0.0003	0.0230	0.0490	
High Sulphur Diesel Fuel	0.0760	0.1141	0.4410	
Light Fuel Oil	0.0001	0.0989	0.4560	0.30 – Type No. 0 (CAN/CGSB 3.2-2011) 0.50 – Type No. 1 (CAN/CGSB 3.2-2011) 0.50 – Type No. 2 (CAN/CGSB 3.2-2011)
Heavy Fuel Oil	0.0000	1.4580	5.5070	No limits

²³ Withdrawn December 2009.

²⁴ 0.05 before September 30, 2010

Table G.1c: Reported sulphur content (%) versus CGSB standards in 2012

Type of Fuel	Reported Sulphur Content (wt%)			CGSB (% sulphur mass)
	Low Value	National Average	High Value	
Aviation Turbo Fuel	0.0000	0.0539	0.59	0.30 – Jet A (CAN/CGSB 3.23-2012) 0.40 – Jet B (CAN/CGSB 3.22-2012)
Motor Gasoline	0.0000	0.0021	0.0075	0.008 (CAN/CGSB 3.511-2011)
Aviation Gasoline	0.0000	0.0004	0.0020	Withdrawn ²⁵
Kerosene/Stove Oil	0.0000	0.0276	0.5000	0.04 – Type No. 1 – K (CAN/CGSB 3.3-2014) 0.30 – Type No. 2 – K (CAN/CGSB 3.3-2014)
Ultra Low Sulphur Diesel Fuel	0.0000	0.0005	0.0015	0.0015 – Diesel Fuel (CAN/CGSB 3.517-2013)
Low Sulphur Diesel Fuel	0.0006	0.00248	0.0477	0.0015 ²⁶ – Off Road Diesel Fuel (CAN/CGSB 3.6-2010)
High Sulphur Diesel Fuel	0.1051	0.1384	0.1542	0.05 – Diesel Fuel for Locomotive Type Medium-Speed Diesel Engines (CAN/CGSB-3.18-2010)
Light Fuel Oil	0.0001	0.0730	0.5142	0.30 – Type No. 0 (CAN/CGSB 3.2-2011) 0.50 – Type No. 1 (CAN/CGSB 3.2-2011) 0.50 – Type No. 2 (CAN/CGSB 3.2-2011)
Heavy Fuel Oil	0.0000	1.2657	5.5000	No limits

²⁵ Withdrawn December 2009.

²⁶ 0.05 before September 30, 2010

Table G.2a: Average reported sulphur content (%) for heavy fuel oil versus limits under provincial regulations in 2010

Region	Sulphur Content (%) in Heavy Fuel Oil	Provincial Regulations	
		Province	Sulphur Content Limit (%)
Atlantic	1.42	New Brunswick	<u>Heavy Fuel Oil</u> 1.5 – Type No. 4 2.0 – Type No. 5 3.0 – Type No. 6
		Newfoundland and Labrador	<u>Heavy Fuel Oil</u> Any fuel grade Type Nos. 4, 5 or 6: Where Best Available Technology (BAT) is employed: – 3%; or – 2% on an annual basis. Where BAT is not employed: – 2.2%; or – 2% on an annual basis.
		Nova Scotia	2.0 – All types
		Prince Edward Island	No limits ²⁷
Quebec	1.18	Quebec	1.5 - Stationary internal combustion engines 2.0 – All other types 1.25 to 1.4 – HFO Type No. 6 (Montréal)
Ontario	2.34	Ontario	1.0 – Boilers 1.5 – All types (Toronto only)
West	1.64	British Columbia Alberta Saskatchewan Manitoba Yukon Northwest Territories Nunavut	1.1 – All types Not regulated provincially Not regulated provincially Not regulated provincially 1.1 ²⁸ Not regulated provincially Not regulated provincially

²⁷ In reference to CAN/CGSB-3.2-2011.

²⁸ Fuel for heating, generating steam or electricity or combustion in industrial processes except as authorized by a permit issued under the *Air Emissions Regulations*.

Table G.2b: Average reported sulphur content (%) for heavy fuel oil versus limits under provincial regulations in 2011

Region	Sulphur Content (%) in Heavy Fuel Oil	Provincial Regulations	
		Province	Sulphur Content Limit (%)
Atlantic	1.19	New Brunswick	<u>Heavy Fuel Oil</u> 1.5 – Type No. 4 2.0 – Type No. 5 3.0 – Type No. 6
		Newfoundland and Labrador	<u>Heavy Fuel Oil</u> Any fuel grade Type Nos. 4, 5 or 6: Where Best Available Technology (BAT) is employed: – 3%; or – 2% on an annual basis. Where BAT is not employed: – 2.2%; or – 2% on an annual basis.
		Nova Scotia	2.0 – All types
		Prince Edward Island	No limits ²⁹
Quebec	1.11	Quebec	1.5 - Stationary internal combustion engines 2.0 – All other types 1.25 to 1.4 – HFO Type No. 6 (Montréal)
Ontario	2.16	Ontario	1.0 – Boilers 1.5 – All types (Toronto only)
West	1.57	British Columbia Alberta Saskatchewan Manitoba Yukon Northwest Territories Nunavut	1.1 – All types Not regulated provincially Not regulated provincially Not regulated provincially 1.1 ³⁰ Not regulated provincially Not regulated provincially

²⁹ In reference to CAN/CGSB-3.2-2011.

³⁰ Fuel for heating, generating steam or electricity or combustion in industrial processes except as authorized by a permit issued under the *Air Emissions Regulations*.

Table G.2c: Average reported sulphur content (%) for heavy fuel oil versus limits under provincial regulations in 2012

Region	Sulphur Content (%) in Heavy Fuel Oil	Provincial Regulations	
		Province	Sulphur Content Limit (%)
Atlantic	0.75	New Brunswick	<u>Heavy Fuel Oil</u> 1.5 – Type No. 4 2.0 – Type No. 5 3.0 – Type No. 6
		Newfoundland and Labrador	<u>Heavy Fuel Oil</u> Any fuel grade Type Nos. 4, 5 or 6: Where Best Available Technology (BAT) is employed: – 3%; or – 2% on an annual basis. Where BAT is not employed: – 2.2%; or – 2% on an annual basis.
		Nova Scotia	2.0 – All types
		Prince Edward Island	No limits ³¹
Quebec	1.01	Quebec	1.5 - Stationary internal combustion engines 2.0 – All other types 1.25 to 1.4 – HFO Type No. 6 (Montréal)
Ontario	2.10	Ontario	1.0 – Boilers 1.5 – All types (Toronto only)
West	1.53	British Columbia Alberta Saskatchewan Manitoba Yukon Northwest Territories Nunavut	1.1 – All types Not regulated provincially Not regulated provincially Not regulated provincially 1.1 ³² Not regulated provincially Not regulated provincially

³¹ In reference to CAN/CGSB-3.2-2011.

³² Fuel for heating, generating steam or electricity or combustion in industrial processes except as authorized by a permit issued under the *Air Emissions Regulations*.